CHANSLOR & LYON MOTOR SUPPLY CO

SAN FRANCISCO
SEATTLE
LOS ANGELES

Catalog

CHANSLOR & LYON MOTOR SUPPLY COMPANY

FACTORY AGENTS ON THE PACIFIC COAST
FOR

Hartford Tires
Harris Oils and Greases
Hartford Shock Absorbers
Exide Storage Batteries
Barrett and Standard Jacks
Shaler Vulcanizers
Schebler Carburetors
Stromberg Carburetors
Raybestos Brake Lining
Woodworth Threads
Solarine Metal Polish
Rushmore Lamps
Green Oil Soap
Champion Wind Shields
Hartford Wind Shields
Earl Wind Shields
Sootless Spark Plugs
Nevermiss Spark Plugs
Gabriel Horns
Janney-Steinmetz Emergency Gasolene Tanks
A-1 Body Polish
Keyless Winding Clocks
Rohrbacher Automatic Air Pumps

SAN FRANCISCO: 501-507 GOLDEN GATE AVENUE
LOS ANGELES: 945-947 SOUTH MAIN STREET
SEATTLE: 916 EAST PIKE STREET

Printed by The Stanley-Taylor Company, San Francisco

To the Trade

IN PRESENTING our 1910 Catalogue of Motor Car Supplies we wish to call your attention to the high grade of the lines shown, it being our aim to carry only such goods as we know are standard, and leave out all experiments. We would ask that you take this into consideration when selecting your supplies, as we had much rather have one satisfied customer with good goods at right prices than a dozen partially satisfied with inferior articles.

We do not carry parts entering into construction, other than carburetors, spark coils and similar attachments, endeavoring to carry in stock "everything for you and your auto," only. In thus specializing our class of goods we **can** and **do carry the most complete line in the West.**

In comparing our prices with Eastern Houses, don't forget the items of freight and delay in delivery from such a distant point.

TERMS—To dealers with satisfactory commercial ratings our terms are 30 days net, or 2 per cent discount if bill is paid in ten days. If you are not commercially rated, please send draft with order, or we will send C. O. D. by express, or draft attached to bill of lading if by freight, provided one-quarter of purchase price accompanies order to cover return charges.

REMITTANCES—All goods F. O. B. Los Angeles, San Francisco and Seattle. Remittances must be made by Draft, Postoffice or Express Order, or currency may be sent in registered letter. U. S. one or two-cent stamps will be accepted in payment for sums less than one dollar ($1.00). Itemized bills are sent to all customers, and if amount remitted be in excess of purchase, check will be returned with receipted bill.

MAIL ORDERS are given our careful and immediate attention. Practically all orders are filled the same day as received. Please write all orders on a separate sheet of paper from that on which your letter is written.

SHIPMENTS—Please state how goods are to be shipped, whether by Freight, Express or Mail, and if by the latter include postage at the rate of one cent per ounce. We cannot be responsible for the safe arrival of articles mailed unless eight cents additional are enclosed for registering. If no instructions are given, we use the route which, in our judgment, is the most economical and convenient for our customer.

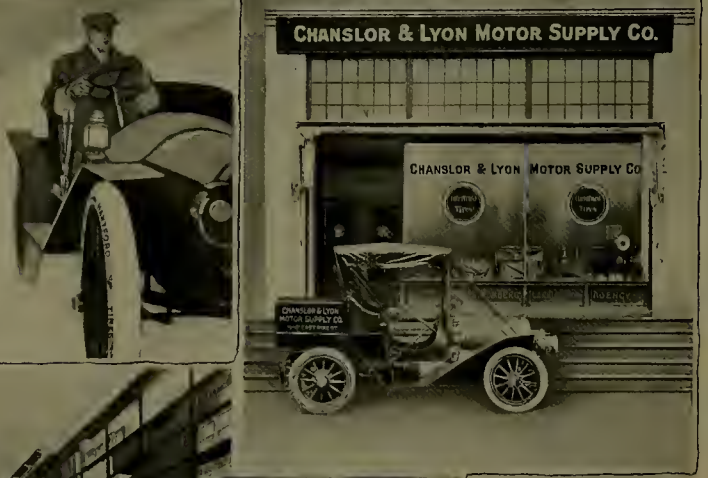
RETURNED GOODS—Charges must be prepaid on all goods returned for exchange, repair or replacement. Letter should be mailed to us at the same time, giving instructions or cause for return. Mark packages plainly with your name and address. Goods to be returned for credit **must be accompanied by date of purchase,** or no credit will be given.

CLAIMS for errors or shortages must be made in five days from receipt of goods. Transportation charges must be **prepaid** on returned goods, pending investigation of the claim. If desired, we will send parcels by mail, but they will be at purchaser's risk. Our responsibility for a shipment ceases when it is delivered to the Transportation Company. Any claims for loss or damage in transit must be made direct to the carriers.

PRICES are subject to change without notice, and sometimes in your favor. If our quotations seem high in some instances, consult us before placing your order.

Chanslor & Lyon Motor Supply Co.

Los Angeles, 945-947 So. Main St. San Francisco, 501-503 Golden Gate Ave.
Seattle, 916 E. Pike St.



CHANSLOR & LYON MOTOR SUPPLY CO., Seattle, Wash.
Acknowledged the Most Complete Automobile Accessory House in the Northwest

CALIFORNIA STATE LIBRARY

Hartford Tires

THE HARTFORD RUBBER WORKS COMPANY, HARTFORD, CONNECTICUT

Where the Famous Hartford Tires Are Manufactured

Between You and The Road

COMES the Tire. And it should command the most painstaking, rigid attention and consideration of the owner, because it is of the most vital importance, not only to the welfare of the car itself, but the satisfaction in driving it.

Look you then carefully into this tire proposition. Study it a little. Don't be satisfied with anything that you are not convinced in your own mind is not the very acme of tire excellence.

Without fear of contradiction and realizing the full responsibility and import of the assertion, we say that no factory in the world has developed its product to the same high standard and high quality in design, material and workmanship as has The Hartford Rubber Works Company, of Hartford, Connecticut. A factory established in the beginning of the bicycle industry, ever and always making tires acknowledged the world over as pre-eminently the quality tires.

A perusal of the tires outlined in this Catalogue will reveal to the reader a line of automobile tires which is the result of all these years of experience—a line of tires for every car and every purpose—that we know is not excelled by anyone, anywhere. Tires that are as good as it is possible to make them.

When you specify Hartford Tires for your car, you can rest secure in the fact that you have between you and the road—"The Tires That Last."

Chanslor & Lyon Motor Supply Co.

San Francisco . Seattle . Los Angeles

Agents for the HARTFORD RUBBER WORKS COMPANY

Hartford Tires

HARTFORD DUNLOP AUTOMOBILE TIRE

HARTFORD DUNLOP TIRE

Illustrating Plain Tread Style

The Hartford Dunlop Tire embraces more distinctive advantages than any other automobile tire. Much more resilient than clincher tire therefore easier riding, easier on the car.

Made by the successful and much imitated Hartford open-cure steam process.

This process insures greater resiliency, greater toughness and longer life.

Held in place on the rim by non-extensible endless wires embedded in its edges.

Cannot come off the rim even if ridden flat, as the wires secure it in position.

No rim cutting on Dunlop tires if properly inflated.

Cannot blow off the rim.

Made plain or fitted with Hartford Midgley wire grip non-skid tread.

HARTFORD DUNLOP TIRE

Illustrating Wire-Grip Non-Skid Style (Midgley)

It is the only non-skid tire which is correct in principle, design and practice. And when we say correct we mean correct as proved by four years' successful use.

Let us make it perfectly plain and clear to you. The Hartford Wire Grip Non-Skid is the only non-skid tire that provides metal contact with the road and yet retains all of its resiliency and easy riding qualities.

Rubber, corrugated, indented, with angles or projections—will slip on wet asphalt. The true non-skid must bring metal into contact with the road. Many non-skids do that, but not one of them is resilient. How we accomplish it—is shown by this picture of the tire section.

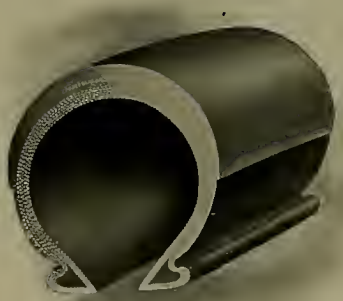
GUARANTEE

We agree with the purchaser of each Hartford Tire to make good by repair or replacement, at our option, when delivered to us by prepaid transportation, any imperfection or defect in the workmanship of such tire, provided that in each case the tire shall be referred to us before any claim under this guarantee is allowed.

This guarantee does not include free repair of injuries resulting from overload or abuse, and may be reasonably modified for mileage performed. All sales of tires are subject to the understanding that we are liable only to the extent of this guarantee.

Prices on page 8.

Hartford Clincher Tires



HARTFORD CLINCHER AUTOMOBILE TIRE

(Plain Tread)

Produced by the Hartford open-cure wrapped tread process. Vulcanized in the shape tire assumes in service, thus relieving tension on the fabric and offsetting any tendency to split.

Edges are so treated that rim cutting is impossible except through gross carelessness or neglect.

Finest Sea Island cotton—especially selected and woven for this tire.

Unusual care in making.

Careful inspection of each step of the manufacture.

Best materials and workmanship.

The most satisfactory Clincher Tire to be obtained.

Furnished Plain or with Hartford Midgley Wire Grip Non-Skid.

HARTFORD WIRE GRIP NON-SKID

(Midgley Tread)

The non-skid feature is made up of four parallel coils of specially tempered, specially treated steel wire—moulded right into the tread of the tire itself.

The wire is light; it is strong; it is flexible; it is steel.

It gives when the tire gives; it takes away nothing of the tire's resiliency.

When the tire is new the coils are complete. But as you use the tire, the coils coming into contact with the road wear away. The result is thousands of little spikes sharp as cats' claws and which grip the ground just as cats' claws would.

You can see that this specially treated wire, incorporated in the tire as it is—actually made part of the tire—cannot lessen the tire's resiliency or easy riding qualities.

"The Hartford Wire Grip Non-Skid Tire is universally conceded to be the most successful non-skid tire on the market."

The above is the consensus of opinion of thousands of **Satisfied Owners Everywhere.**

Prices on page 8.

Hartford Tires and Inner Tubes

HARTFORD INNER TUBES

Hartford Tough Grey Tubes are produced from fine Para Rubber. They do not lose any of their elasticity or resiliency with age. Rubber is naturally a grey color—hence in its original color is superior to rubber which has been "doctored" to produce a brilliant hue.

Hartfords—the best inner tubes—are grey and are of a gauge heavy enough to insure wearing qualities without detracting from their liveliness.

Every tube is rigidly tested before being packed in a neat box made to fit the tube without injury thereto.

An inner tube to be satisfactory must of necessity correctly fit the tire casing and rim. Hartford Inner Tubes are made of the correct shape to fit without straining, folding or buckling. This means Tube Durability, which cannot be obtained by the use of a tube vulcanized on a straight mandrel. Such a tube having no difference in outside and inside circumference must of necessity be distorted in use.

All of our Clincher Tubes are fitted with a bridge washer and a dust cap, and will fit exactly any Quick Detachable Tire made.

HARTFORD QUICK DETACHABLE CLINCHER TIRE

The Hartford Quick Detachable Tire is made by the same process and same high quality material used in the manufacture of Hartford Dunlop and Clincher Tires.

It incorporates the basic principles of the Dunlop and Clincher Tires combined.

In other words, it has the non-extensible wire edge of the Dunlop tire and the heel of the Clincher.

There is no toe to the clinch on the Hartford Quick Detachable Tires.

The tube lies exactly as in the Dunlop Tire.

The Hartford Quick Detachable Tire will fit any Quick Detachable Rim on the market and is furnished in all standard sizes as well as in 38x6-inch size to fit 36x5-inch rims.

Midgley Wire Grip Non-Skid Tread as desired.

HARTFORD TIRES

Carried the Mitchell Ranger from New York to San Francisco on equipment of four tires, **one** set withstanding the hard grind of trip from the Atlantic to the Pacific and showed comparatively little wear. This is a record which proves the superior value of Hartford Tires.

Prices on page 8.

Hartford Tires and Rims

January 1st—1910 Price List

HARTFORD DUNLOP CLINCHER AND QUICK DETACHABLE CLINCHER TIRES

Priees Subjeet to Change Without Notice

Size	Reg. Round Tread Casing	Midgley Tread	Bailey Tread	All Tubes
26x2½	$13.80		$15.40	$3.50
28x2½	14.90		16.50	3.85
30x2½	16.05		17.65	4.05
26x3	16.45	$20.55	18.35	4.10
28x3	17.75	22.20	19.65	4.45
30x3	19.05	23.80	20.90	4.75
32x3	20.35	25.45	22.20	5.00
34x3	21.65	27.05	23.45	5.40
36x3	22.95	28.70	24.80	5.70
28x3¼	22.70	28.40	24.85	5.85
28x3½	26.10	32.65	28.60	6.00
30x3½	28.10	35.15	30.60	6.40
31x3½	29.00	36.25	31.50	6.60
32x3½	29.80	37.25	32.40	6.75
34x3½	32.50	40.65	35.05	7.20
36x3½	35.15	43.95	37.65	7.60
30x4	37.95	47.45	41.15	7.80
31x4	40.20	50.25	42.05	8.10
Millimeter Sizes				
750x85	$23.60	$29.50	$25.80	$5.55
760x90	28.10	35.10	30.60	6.40
810x90	29.80	37.25	32.40	6.75
870x90	32.50	40.65	35.05	7.20
910x90	35.15	43.95	37.65	7.60
815x105	40.80	51.00	43.95	8.30

Size	Reg. Round Tread Casing	Midgley Tread	Bailey Tread	All Tubes
32x4	$40.80	$51.00	$43.95	$8.30
33x4	42.35	52.95	45.45	8.45
34x4	43.65	54.55	46.55	8.75
35x4	44.65	55.80	47.70	8.85
36x4	46.45	58.05	49.50	9.20
32x4½	52.05	65.05	55.75	10.15
33x4½	54.15	67.70	57.90	10.35
34x4½	55.35	69.20	59.05	10.80
35x4½	57.00	71.25	60.20	11.00
36x4½	58.65	73.30	62.35	11.40
37x4½	60.30	75.40	64.10	11.75
34x5	68.20	85.25	72.80	12.70
35x5	69.50	86.95	74.15	13.00
36x5	72.05	90.05	76.70	13.40
37x5	73.35	91.70	77.95	13.65
36x5½	84.15	105.20	89.70	15.10
38x5½	88.80	111.00	94.40	15.95
37x6	101.00	126.25	106.95	17.75
38x6	103.50	129.40	109.45	18.40
Millimeter Sizes				
875x105	43.65	54.55	46.55	8.75
915x105	46.45	58.05	49.50	9.20
820x120	48.75	60.95	52.50	9.60
880x120	55.35	69.20	59.05	10.80
920x120	58.65	73.30	62.35	11.40
935x135	75.95	94.95	80.50	14.10

5% for Cash.

NOTE—Millimeter Sizes not made in Dunlop or Quick Detachable Type.

FOR CLINCHER TIRE

FOR DUNLOP TIRE

THE STANDARD UNIVERSAL QUICK DETACHABLE RIM

Priee List

2½ and 3 inch up to 36 inch, each.....$2.50
3½ inch up to 36 inch, each..... 3.60
4 inch up to 36 inch, each..... 3.65
4½ and 5 inch up to 36 inch, each.... 5.00

Rubber Fillers, 3 inch Rims, each...$0.40
Rubber Fillers, 3½ inch Rims, each... .50
Rubber Fillers, 4 inch Rims, each... .60
Rubber Fillers, 4½ inch Rims, each... .65
Rubber Fillers, 5 inch Rims, each... .70

SPECIAL SIZE TIRES WILL FIT THE FOLLOWING SIZE RIMS

Inch		Fits Inch Rim
28 x 3¼	Clincher	28 x 3
31 x 3½	Clincher	30 x 3
31 x 4	Clincher, Dunlop, Quick Detachable	30 x 3½
33 x 4	Clincher, Dunlop, Quick Detachable	32 x 3½
35 x 4	Clincher, Dunlop, Quick Detachable	34 x 3½
33 x 4½	Clincher, Dunlop, Quick Detachable	32 x 4
35 x 4½	Clincher, Dunlop, Quick Detachable	34 x 4
37 x 4½	Clincher, Dunlop, Quick Detachable	36 x 4
34 x 5	Dunlop, Quick Detachable	32 x 4½
35 x 5	Clincher, Dunlop, Quick Detachable	34 x 4½
37 x 5	Clincher, Dunlop, Quick Detachable	36 x 4½
37 x 6	Dunlop, Quick Detachable	36 x 5½
38 x 6	Dunlop, Quick Detachable	36 x 5

Hartford Solid Motor Tire

STANDARD E

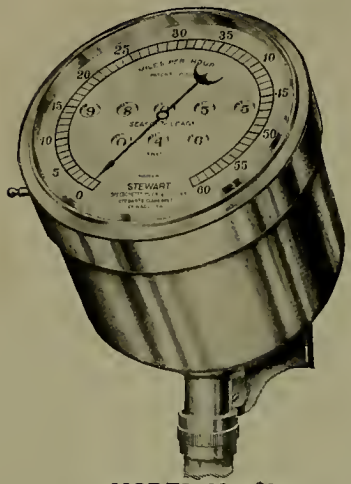
STANDARD A

No tire for commercial vehicles can be successful unless it be positively fastened to the wheel by a system which does not depend upon bolts running through the tire itself, or whose fastening device is not protected from the danger of water and rust. Just as soon as you have any action upon this fastening device, just then your troubles begin, and the constant wear will weaken the tire at the base and thereby shorten its life. The Hartford Solid Motor Tires are held in place by compression, and the retaining device is rust proof.

We have been successful in securing specifications from the leading manufacturers of commercial vehicles and tire apparatus manufacturers, and in anticipating the growing demand for commercial motor trucks and the vast amount which are being manufactured, we have prepared for the supply of tires on these vehicles by carrying a stock of SOLID MOTOR TIRES which are superior to any on the market. We also carry a supply of flanges, rims, bolts and nuts for applying solid motor tires to trucks, fire engines, etc. Owing to the fluctuation of the rubber market, we deem it advisable to quote prices upon application.

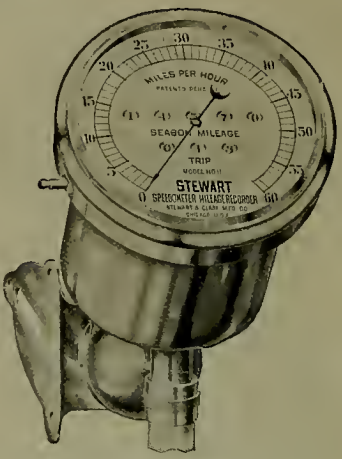
The Hartford Solid Motor Tire has longitudinal wires running through the base of the tire which absolutely affix the circumference and prevent a possibility of the tire stretching when power is applied to the wheel. The inside circumference of the tire is made a trifle smaller than the outside circumference of the steel band on the wheel, and the tire is forced on over the steel band, which creates a pressure against the internal wires which, in addition to the compression of the side flanges, firmly anchor the tire to the wheel and make it absolutely impossible for the tire to creep.

Stewart Speedometers



The 1910 Stewart Multipolar Speedometer

The only speedometer guaranteed for five years. Made by the largest and most responsible speedometer manufacturers in the world, backed by a manufacturing experience of 20 years.



MODEL 26 — $20.00

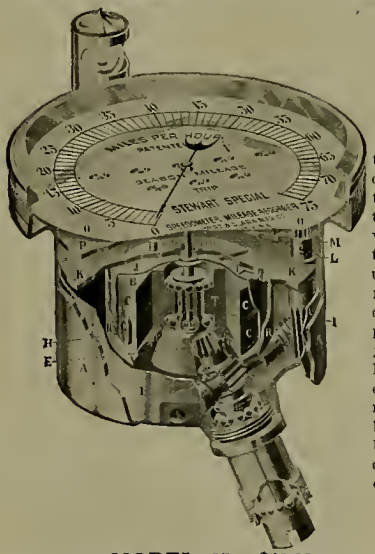
Three-inch dial, 60-mile speedometer, 10,000-mile season odometer, automatic resetting trip register. Same capacity as our $25 Model, but smaller case.

MODEL 11 — $25.00

Four-inch dial, 60-mile speedometer, 10,000-mile season odometer, automatic resetting trip register. A very popular model.

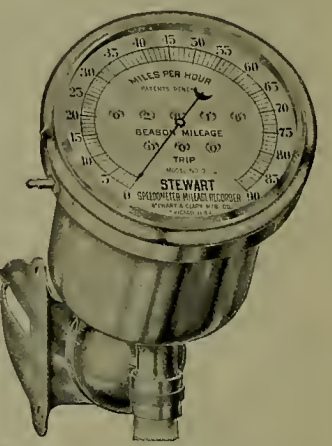
STEWART SIMPLICITY

In these instruments have been incorporated a unique mechanism for indicating the speed. Only two moving parts—one a rotor mounted on imported ball bearings and operating at a very slow speed, and with no mechanical function except to revolve; the other a small disc mounted on a tempered and highly polished spindle in a jewel bearing of the highest quality. There is absolutely no mechanical connection between them. An induced current from one of these parts (the rotor) flowing through the other part (the disc) causes the latter, which is normally biased against movement by a spring, to move in the same direction as the rotor and in exact accordance with the speed at which the rotor is driven.



Precision of Manufacture

To make sure that there will be no change in the frictional resistance of the indicating element we temper and grind, then polish the pivot under a microscope, removing the minutest scratches. As this pivot is carried in a jewel bearing, the hardest and most enduring bearing material known, and as bearings are not lubricated, the co-efficient of friction is constant.



MODEL 27 — $40.00

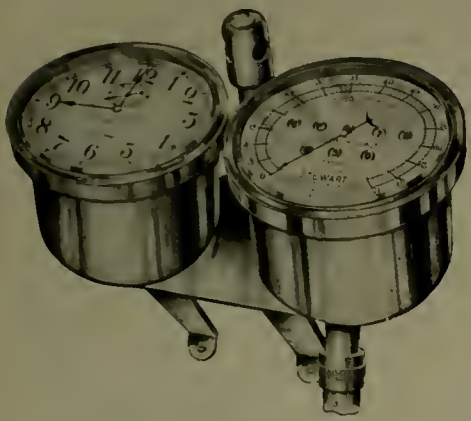
Four-inch dial, 75-mile speedometer, diamond bearing, 100,000-mile season odometer, automatic resetting trip register. Our most popular speedometer, suitable for the best cars on the market. Equipped with electric light.

MODEL 19 — $75.00

Four-inch dial, 90-mile speedometer, diamond bearings, 100,000-mile season odometer, automatic resetting trip register. This instrument is of special construction for high-priced cars.

Stewart Speedometers

1910 MULTIPOLAR



SHOWING MODEL 29

Model 35. Combination of Model 11, 60-mile, four-inch dial, enclosed 10,000-mile season odometer and automatic resetting trip register and eight-day, seven jewel Stewart clock, stem wind and set, mounted on brass base, equipped with electric light.
Price **$50.00**

Model 10. Four-inch, 60-mile speedometer, Model 11, combined with a four-inch Seth Thomas eight-day keyless clock, mounted on handsome bracket, with electric light.
Price **$60.00**

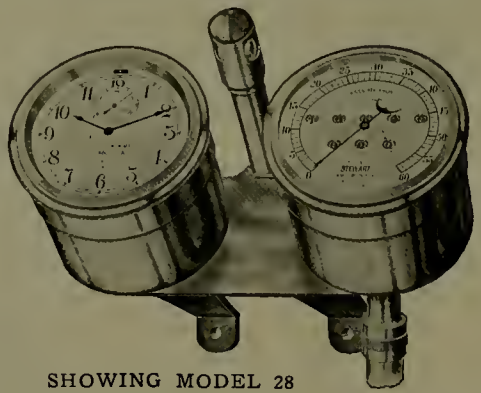
Model 29. Four-inch, Model 27, 75-mile speedometer, enclosed 100,000-mile season odometer and automatic resetting trip register combined with an eight-day Seth Thomas keyless clock and electric light.
Price **$75.00**

Model 18. Four-inch, Model 19, 90-mile speedometer, 100,000-mile season odometer, automatic resetting trip register eight-day Seth Thomas clock (keyless), electric light.
Price **$110.00**

STEWART COMBINATION CLOCK AND SPEEDOMETER WITH 4" DIAL

Model 34. Combination of Model 26 speedometer, three-inch dial, enclosed 10,000-mile odometer and automatic resetting trip register, eight-day, seven-jewel Stewart clock, stem wind and set, mounted on brass base, equipped with electric light.
Price **$40.00**

Model 28. Three-inch, 60-mile speedometer, Model 26, combined with a three-inch Seth Thomas eight-day keyless clock, mounted on handsome bracket, equipped with electric light.
Price **$55.00**



SHOWING MODEL 28

STEWART COMBINATION CLOCK AND SPEEDOMETER WITH 3" DIAL

SHOWING MODEL 33

Model 33. Combination of Model 24 speedometer, 50-mile, two and one-half-inch dial, enclosed 10,000-mile season odometer and eight-day Stewart clock, stem wind and stem set, mounted on brass base.
Price **$25.00**

An Innovation

Heretofore it has been necessary when winding or setting a clock to remove the cover. This inconvenience has been overcome. The Stewart clock is **stem wind and set,** eliminating the necessity of carrying a key or removing the cover—a great convenience, to say nothing of the better service the clock will give when not exposed to moisture or dust.

MODEL 31—$12.00

Two and one-half-inch dial, for motor boats, indicates the speed of engine; maximum revolutions, 1,200.

Stewart Speedometers

1910 MULTIPOLAR

MODEL 32 — $25.00

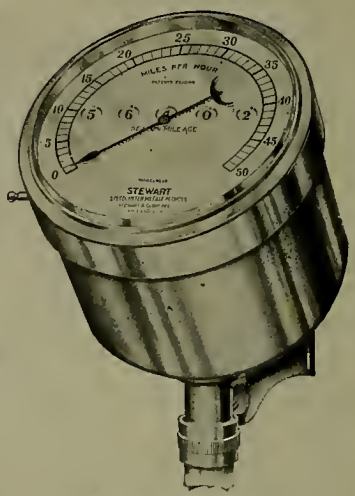
Three-inch dial, 60-mile speedometer, 10,000-mile season odometer, automatic re-setting trip register and watch, mounted in handsome case to match speedometer. An inexpensive, yet practical, combination.

Model 25 — $20.00

Same style as above. Three-inch dial, 50-mile speedometer, with enclosed 10,000-mile season odometer, but no trip register, equipped with a watch.

A Few Reasons Why the Stewart Multipolar Speedometer is Superior to All Other Types.

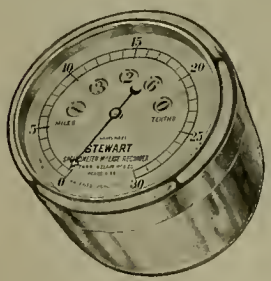
Beauty of design.
Simplicity of construction.
Highly sensitive to changes in speed.
Accurate over the entire scale.
Longest scale on any speedometer.
Pointer absolutely steady at all speeds.
Only two moving parts, having no connection with each other.
Accurate calibration easily accomplished and permanently retained.
Evenness of torque.
Lighter indicating element with absence of inertia.
Jewel bearings larger and costlier than used in any other speedometer.
More magnet area.
Rotor operates at very low speed and has no mechanical function except to revolve.
Equipment of shaft, clamp, etc., not equaled in any other speedometer.
Unique ball bearing (patented) swivel joint eliminates bends in the shaft.



MODEL 24 — $15.00

Three-inch dial, 50-mile speedometer, 10,000-mile season odometer, no trip register.

When ordering Stewart Multipolar Speedometers, kindly give model number and don't fail to advise for what make and model of car the instrument is intended for; also size of tire.



We carry a full line of all models of the Stewart Multipolar Speedometers.

MODEL 23 — $15.00

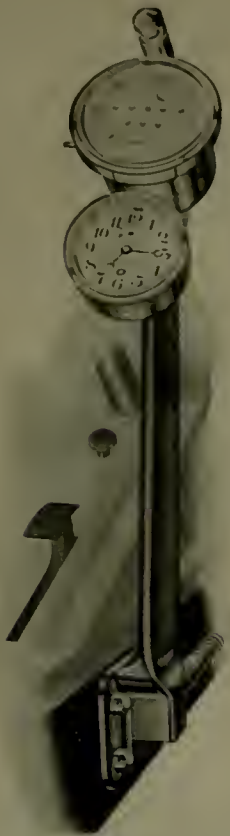
Two and one-half inch dial, 30-mile speedometer, 10,000-mile season odometer. The only speedometer built exclusively for Electric Automobiles and Commercial Trucks.

Model 21. Motor cycle speedometer, two and one-half-inch dial, 60-mile, 10,000-mile season odometer.

Price **$12.00**

Model 22. Same as above, with 90-mile dial.

Price **$15.00**



Speedometers

MODEL 37 — $75.00

Four-inch dial, 60-mile speedometer, 10,000-mile season odometer, automatic resetting trip register, eight-day Stewart clock, stem wind and stem set (no key), guaranteed for five years, mounted on handsome brass standard, equipped with electric light. Flexible shaft encased in heavy hand-sewed leather. The most satisfactory clock and speedometer combination ever designed. The ideal installation.

MODEL 36 — $100.00

Four-inch dial, 75-mile speedometer, 100,000-mile season odometer, automatic resetting trip register, eight-day Seth Thomas clock, rim wind (keyless), electric light, mounted on handsome brass standard. Flexible shaft encased in heavy hand-sewed leather. Standard to be bolted to frame of car. This makes the ideal and only proper speedometer installation.

The Stewart Standard is the "Hit of the Season"

This method of installing a SPEEDOMETER is recognized as the only proper one. It places the instrument where it can be most easily seen and read. The outfit comprises a handsomely designed brass standard, beautifully finished, light of weight, yet sturdy enough to eliminate all vibration. It does away with all bends in the flexible shaft, permitting the shaft to be carried along the frame of the car directly to the swivel joint at the front, which obviates any possibility of the shaft breaking. On these models the shafts are covered with heavy sewed leather.

Made in two models only.

VEEDER ODOMETER

The Form B Veeder Odometer is a neat, compact instrument, both dust and waterproof, and being attached to the steering arm, is practically safe from accident.

It is operated by spur gears, which give a smooth, even movement to the mechanism no matter what the speed of the car to which the instrument is attached.

The driving gear encircles the hub of the left front wheel, and the instrument is so placed in relation to it on the steering knuckle that the driven gear is constantly in mesh with the gear wheel on the odometer.

When ordering, it is always necessary for us to know the make and model of the car as well as the year of manufacture and size of front wheels.

FORM B VEEDER ODOMETER

Price, complete for any car $10.00

STEWART SPEEDOMETER

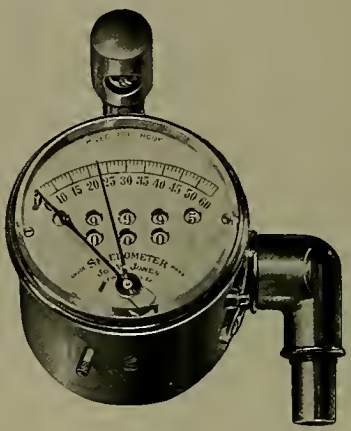
Price List of Parts

Swivel joint	$6.50
Flexible shaft	$5.00
Outside casing for flexible shaft	3.00
Core chain for flexible shaft	2.00
Sprocket (large gear)	2.00
Pinion (small gear)	.75
Clevis clamp only	1.00
Complete clamp	2.50
Clamps, from No. 12 to No. 45....each	2.50
Dash bracket, No. 5	1.50
Dash bracket, No. 7 and No. 8	1.00
Dash bracket, No. 9 and No. 10	2.50
Dash bracket, No. 11	1.00
Dash bracket, No. 12 and No. 13	2.50
Dash bracket, No. 14	1.50
Dash bracket, No. 15 and No. 16	1.00

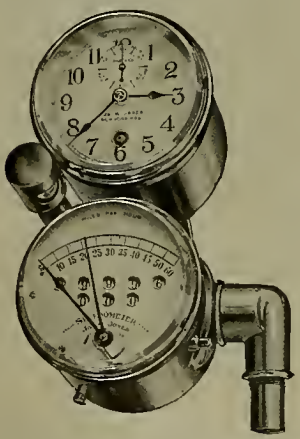
When ordering parts be explicit in stating make and model number of your speedometer, also make, model and size of wheel of your car when gears are wanted.

Jones Speedometers

Model 28—3-in., 50-mile $25.00
Model 34—3-in., 60-mile 25.00
Enclosed Jones Trip Odometer
With Instantaneous Reset.



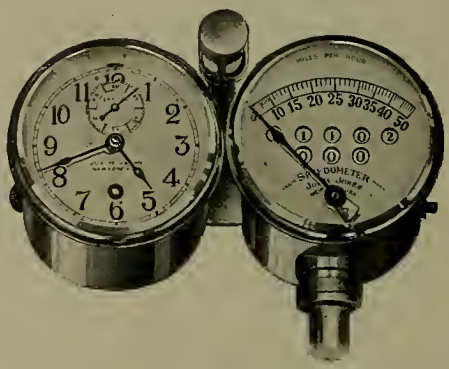
Model 19—3-in., 60-mile..... $60.00
Maximum Speed Hand.
Jones Trip Odometer
With Instantaneous Reset.
Electric Light Attachment.



Auto Clock and Light with Model 28.. $60.00
Auto Clock and Light with Model 34.. 60.00
Auto Clock and Light with Model 19.. 90.00
3-inch Dials.

On some cars there is not sufficient space on the dashboard to mount "Twin" sets horizontally. To obviate this difficulty we have designed the "Vertical" combinations illustrated on this and the following page. We furnish the necessary bracket for mounting one instrument above the other. These combinations make it possible to combine in a symmetrical manner, clocks and speedometers of varying diameters.

When ordering these sets, please stipulate "Vertical," thereby avoiding possible confusion with horizontal sets.



Auto Clock and Light with Model 28.. $60.00
Auto Clock and Light with Model 34.. 60.00
Auto Clock and Light with Model 19.. 90.00
3-inch Dials.

The "Twin Combinations are fitted with the electric light attachment for night illumination of the dials, the light being controlled by a push-button placed either beside the driver or on the steering wheel and operated by an ordinary six-volt storage battery or the equivalent current from dry cells.

Jones Speedometers and Clock Combination Instruments with 3-inch Dials.

Jones Speedometers

Model 29—4-in., 60-mile $30.00
Model 33—4-in., 80-mile 35.00

Enclosed Jones Trip Odometer
With Instantaneous Reset.

3-in. Auto Clock—Light with Model 29 $65.00
3-in. Auto Clock—Light with Model 33 70.00
3-in. Auto Clock—Light with Model 15 105.00
3-in. Auto Clock—Light with Model 16 115.00

Above Auto Clock and Lights are the Vertical Type, same as shown on opposite page.

Price List Jones Parts

4 ft. Brass Sleeve or Shaft.....$2.00
4½ ft. Brass Sleeve or Shaft..... 2.25
5 ft. Brass Sleeve or Shaft..... 2.50
6 ft. Brass Sleeve or Shaft..... 3.00
7 ft. Brass Sleeve or Shaft..... 3.50
8 ft. Brass Sleeve or Shaft..... 4.00
4 ft. Inner Steel Cable..... 2.00
4½ ft. Inner Steel Cable..... 2.25
5 ft. Inner Steel Cable..... 2.50
6 ft. Inner Steel Cable..... 3.00
7 ft. Inner Steel Cable..... 3.50
8 ft. Inner Steel Cable..... 4.00
Right Angle Bevel Gear Section..... 3.00
Right Angle with Small Gear..... 4.00
Small Gear alone 1.00
Large Gear for Car Wheel..... 3.00
Attaching Bracket to Steering Arm... 1.50
Adjustable Dashboard Bracket..... 1.50
Extension Dash Bracket 1.50
Glass and Ring, 3-in. 1.00
Glass and Ring, 4-in. 1.50

When ordering parts be explicit in stating make and model number of your speedometer, also make, model and size of wheel of your car when gears are wanted.

Model 15—4-in., 60-mile $75.00
Model 16—4-in., 100-mile 85.00

Maximum Speed Hand.
Jones Trip Odometer
With Instantaneous Reset.
Electric Light Attachment.

By pushing and giving the resetting stem a half turn, the two hands are made to work as one, indicating variable speed only.

The Resetting Stem may be sealed, rendering it inoperative, thus immediately disclosing any unauthorized use of the car.

Auto Clock and Light with Model 15 $120.00
Auto Clock and Light with Model 16 130.00
Auto Clock and Light with Model 29 80.00
Auto Clock and Light with Model 33 85.00

4-inch Dials.

The Jones Combination shown above is particularly suitable for the highest priced cars. It contains EVERY refinement and every exclusive feature known in speed-indicator manufacture.

Jones Speedometers and Combination Clock Instruments with 4-inch Dials.

"SPECIAL"

CHELSEA SPECIAL AUTO CLOCK

2¾-inch $36.00
3½-inch 45.00

"ROUND"

CHELSEA ROUND AUTO CLOCK

2¾-inch $26.00
3½-inch 28.00

"OFFSET"

CHELSEA OFFSET AUTO CLOCK

2¾-inch $28.00
3½-inch 30.00

Clocks

Chelsea

Clocks built with a view to stand the jars and jolts and rough riding of Automobiles. Reputation the highest. Used by parties demanding the BEST.

ALL SIZES STATED ARE THE APPROXIMATE DIAMETERS OF THE DIALS.

All are 8-day High Grade. All are in DUPLEX (patent applied for) polished cast brass cases, the most thoroughly water-proof case on the market. The "SPECIAL" clocks show dial on an angle; its inner cased clock when removed from outer (locked) case is excellent for use on mantels, bureaus, etc., when touring; its outer case is screwed to dashboard by hidden screws. The "SPECIAL" clocks are in large demand from dealers for owners of finest cars.

The MOTOR CLOCK has the same clock movement which for years we have supplied for the hard use on Locomotives, Steam Fire Engines, etc; its dial is of same appearance as the Auto Clock dial, but the Auto Clock movement has a somewhat finer train.

The 3½ MOTOR "OFFSET" is likely to prove a quick, ready seller. Very attractive.

Boston Clocks

Are all 8-DAY, HIGH GRADE, and have Breguet Hairsprings, Compensation Balances with Timing and Banking Screws, 7-Jeweled Escapements, etc. The movements are very rigidly built of exclusively high-grade stock and are secured through back of case with screws completely hidden when back of clock case is fastened to dashboard. The cases are of the well-known waterproof type—the Screw Bezel case—and finely made of Polished Brass.

BOSTON AUTO CLOCK
Model "A," Round Case

3-inch $15.00
3½-inch 16.50
4-inch 18.00

BOSTON AUTO CLOCK
Model "D," Square Offset

3-inch $18.00
3½-inch 21.00
4-inch 24.00

BOSTON AUTO CLOCK
Model "B," Round Offset

3-inch $15.00
3½-inch 16.50
4-inch 18.00

Clocks

No. 2 Round, 7 Jewel..$25.00
No. 4 Round, 4 Jewel.. 18.00
8 Day
3½-inch Luminous Dial

No. 1 Square, 7 Jewel..$25.00
No. 3 Square, 4 Jewel.. 18.00
8 Day
3½-inch Luminous Dial

No. 6 Projecting Base.$12.00
No. 5 Plain Movement. 14.00
8 Day
3½-inch Luminous Dial

No. 7 Straight Case....$12.00
8 Day
3½-inch Luminous Dial

To wind the Clock turn the rim once a week.

No. 8 Large Dial.....$12.00
8 Day
4-inch Luminous Dial

PHINNEY-WALKER KEYLESS AUTO-CLOCKS

Are manufactured especially for the automobile trade. Seth Thomas movement specially built to withstand the jar and vibration of the automobile.

No. 1 and 2 clocks have seven jewels and a movement equal to the finest watch. Fully guaranteed.

No. 3 and 4 clocks are similar in design to No. 1 and 2, but have a balanced jeweled movement containing four jewels. Fully guaranteed.

No. 5 clock is strong and well made, plain movement. Fully guaranteed.

No. 6, 7 and 8 clocks are all the same kind of movement put in different style cases, and while being a cheap clock is a good one, and can recommend it in the strongest terms. Fully guaranteed.

SAVANNAH 8-DAY CLOCK

Height	Width	Dial
4½ in.	4½ in.	3 in.

Price, each.....$7.50

Attached by a locking device. Thief and water proof. Polished brass case.

DAYTONA 1-DAY CLOCK

A very good timekeeper. Will give entire satisfaction.

Price, each.....$2.00
Extra watches only..... 1.50

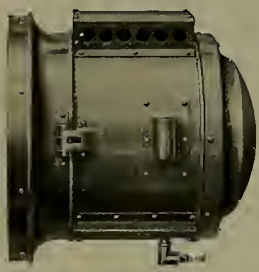
NEW ORMOND 8-DAY CLOCK

Height	Width	Dial
4 in.	4 in.	3 in.

Price, each.....$7.00

Similar to Savannah and so constructed that there is no winding key on side of clock.

Rushmore Lamps



Flare Front Rigid Searchlight

Price List

FLARE FRONT RIGID SEARCHLIGHT

A	6 inch.	Price, each	$ 8.00
B	7 inch.	Price, each	10.50
C	8 inch.	Price, each	14.00
D	9 inch.	Price, each	18.00
E	10 inch.	Price, each	27.00

FLARE FRONT WITH SWING BRACKET

A	6 inch.	Price, each	$13.00
B	7 inch.	Price, each	16.50
C	8 inch.	Price, each	20.50
D	9 inch.	Price, each	25.50
E	10 inch.	Price, each	35.00

Flare Front Swing Bracket Searchlight for Mounting on Flat Vertical Dash

In view of the large number of lamps which superficially resemble the Rushmore, we desire to call attention to the solidity and workmanlike character of the construction used, which it is impossible to imitate in a cheaply built lamp.

First—The extremely short focal distance of the Rushmore lens mirror is shown by the location of the burner, which is back of the center of the lamp and close to the front edge of the lens mirror. The position of the burner is adjustable, and every Rushmore light is exactly focused before it leaves the factory.

Second—Every Rushmore lens mirror is of the largest diameter the lamp body will contain, whereas most others are from one-half inch to one inch smaller.

Third—The sheet brass of which the body of the lamp is formed is twice as heavy as that usually found in other lamps.

The Advantage of a Swing Bracket Searchlight for Night Driving

When a dashboard searchlight is used it can be set to supplement the further reaches of the headlight beams, thereby greatly extending the visible range and producing an evenly balanced illumination, by which, while no portion of the field is of glaring brilliancy, it is possible to see a long distance.

Marine Searchlights

Deak Type Searchlights

Price List

6 inch.	Price, each	$13.50
7 inch.	Price, each	17.75
8 inch.	Price, each	21.50
9 inch.	Price, each	26.50
10 inch.	Price, each	38.50

LAUNCH TYPE

For launches or power craft we furnish the standard searchlight-type swinging U frame, with controller as used on automobiles.

Pilot House Type
Polished Brass and Copper

Price List

6 inch.	Price, each	$19.50
7 inch.	Price, each	24.25
8 inch.	Price, each	28.50
9 inch.	Price, each	34.00
10 inch.	Price, each	46.50

Acetylene Gas Headlights

Solarclipse Headlight

SOLARCLIPSE HEADLIGHT

950s Brass, with shutter and control, pair..... $120.00
950 Brass, without shutter and control, pair..... 100.00
949s Brass, with shutter and control, pair..... 100.00
949 Brass, without shutter and control, pair..... 80.00

SOLAR LENS, MIRROR HEADLIGHT

956a 6-inch Lens Mirror, each $7.50
957a 7-inch Lens Mirror, each 9.00
958a 8-inch Lens Mirror, each 13.00
959a 9-inch Lens Mirror, each 17.50

Solar Lens Mirror Headlight

SOLARCLIPSE HEADLIGHT

Model 950 of this type is the most powerful light produced, designed for use on large touring cars. Model 949 is smaller in size and light power, same design and construction, intended for use on medium sized cars. Both sizes have ground and polished glass lens reflector and front plano convex lens and are of highest grade workmanship. A headlight guaranteed without an equal.

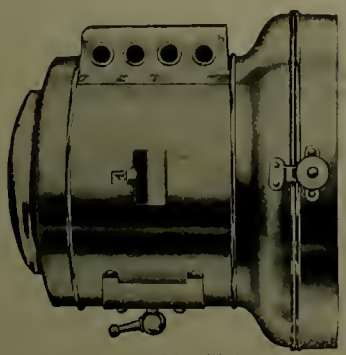
SOLAR LENS HEADLIGHT

Original patented design flared front searchlight type headlight, short in length and large in diameter. Made of heavy brass, assembled with interior screws. Exclusive Solar lens mirror of shorter focus and more efficient than any of B & L make. Reflector tip and glass easily removable.

SOLAR PARABOLIC REFLECTOR HEADLIGHT

Popular priced gas headlight. For runabouts, touring and delivery cars. Dimensions same as 956a except have parabolic aluminum instead of lens mirror reflectors.

951a Brass.....each, $6.25



Sunset Headlight

SUNSET HEADLIGHTS

Made of medium gauge brass, highly burnished. All parts are riveted or screwed together.

Lamps are equipped with Bausch & Lomb mirrors which produce a powerful penetrating light. Lamps have enlarged fronts by which more light is spread directly in front of the car.

Equipped with latest style props and adjusting gas cocks. An excellent lamp at a very reasonable price.

Fork Style No.	Size of Barrel	Dia. of Front	Size Lens Mirror	Each
15	6½ in.	9 in.	5 in.	$7.50
25	7½ in.	9¾ in.	5½ in.	9.00

Oil Side Lamps

Sunset No. 20

Body of Lamp....4½"x3⅞"
Height.....12 inches

Suitable for small touring cars and runabouts.

Price, per pair.....$8.00

SUNSET SIDE OIL LAMPS

Are the latest design in square side oil lamps made of medium heavy brass, highly polished and fitted with beveled plate glasses. These lamps are constructed upon our own designs and are the best medium priced lamp on the market.

Sunset No. 30

Body of Lamp.....5"x5"
Height.....13 inches

Suitable for high powered touring cars and Limousines.

Price, per pair.....$9.00

HAM LIMOUSINE

Body of Lamp.....6"x6"
Height.....14 inches

Suitable for Limousines and high powered touring cars.

Price, per pair.....$17.00

SOLAR SQUARE SIDE OIL LAMP

No. 935 Standard, per pair $16.00
13½ inches high—for large cars.

No. 933 Standard, per pair 11.00
12½ inches high—for light touring cars.

No. 1032 Taxi, per pair. 9.00
11½ inches high—for small cars and Taxicabs.

HAM COLD-BLAST LAMPS

Made on the genuine "Cold Blast" principle. In these lamps we have combined beauty with durability. The exclusive and artistic design, the superior finish, both interior and exterior, the excellent workmanship and the strong, steady, brilliant white light produced by our "Cold Blast" construction places this lamp beyond comparison.

HAM COUPE

Body of Lamp..5½"x5½"
Height.....11¾ inches

Suitable for small and medium size cars.

Price, per pair.....$13.50

Electric Side Lamps

Solar Electric Side Lamp

SOLAR ELECTRIC SIDE LAMP

Of handsome design, maximm lighting power, highest grade of material and workmanship. Carefully wired, insulated and provided with plug connections. Candelabra bases, Tungsten bulbs, 4 candlepower, 6 volts. Other candlepowers supplied to order. All have combination props. Silver plated linings.

SOLAR COMBINATION ELECTRIC AND OIL SIDE LAMP

Can be used either for oil or electric light.

Solar Combination Electric and Oil Side Lamp

No.	Size	Price per pair
922e	6½"x6½"	$12.00
923e	7¾"x7¾"	14.00

No.	Height	Price per pair
935e	13½"	$20.00
933e	12½"	15.00
1032e	11½"	13.00

Vesta Electric Side Lamp

No. 203, 3" diameter, per pair $6.00
No. 205, 5" diameter, per pair 10.00

VESTA ELECTRIC SIDE LAMP

The Vesta lamp is one of the most popular lamps manufactured. If a car is equipped with a pair of these lights it is not necessary to use the headlights at all when in the city. They are equipped with patented focusing device and parabolic silver plated reflector.

SOLAR ELECTRIC DASH LAMP

Model 94e round electric dash lamp 6 inches high, 4½ inches long and has parabolic or mirror reflector, made in pairs with combination props on sides. Fitted with 4 candlepower, 6 volts Tungsten bulbs of candelabra base, unless otherwise ordered.

Solar Electric Dash Lamp

No. 94e, per pair....$10.00
No. 94m, per pair... 10.00

Vesta Electric Headlight

VESTA ELECTRIC HEADLIGHT

The new Vesta Electric Headlight, with the latest method of adjusting the focus, establishes it without question as the leading electric headlight for the automobile. The proper focus in an electric headlight is absolutely essential for the best results. A few turns on a knurled button in the back of the lamp gives a spreading or concentrated light, as desired.

Price List	Brass	Nickel
No. 106, 6-inch, price list.....	$7.50	$8.25
No. 107, 7-inch, price list.....	9.00	10.00
No. 108, 8-inch, price list.....	11.00	12.25

Oil Tail Lamps

HAM VIGILANT

Height, 10 inches.

Price $5.50

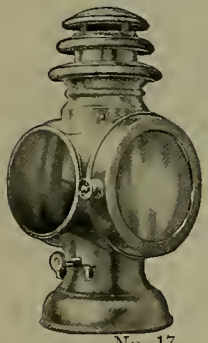
HAM VENUS

Height, including bail, 12 inches.

Price $5.00

HAM TAIL LAMPS

Made on the genuine Cold-Blast principle. The Vigilant comes with a rigid handle and the Venus with bail, making both very handy to inspect engine in case of breakdown.



No. 17

GRAY AND DAVIS TAIL LAMPS

No. 17, height, 11¾ inches.

No. 15, height, 9½ inches.

No. 15

Price .....$5.50 **Price** $4.00

Square Tail Lamp

SQUARE TAIL LAMP

Size of body, 4¼x4¼ inches. Extreme height, 11½ inches. Solid head. Silver plated reflectors.

Price, each.....$4.00

DIETZ DAINTY TAIL LAMP

10½ inches high.

Price $4.00

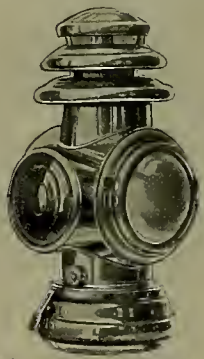
SUNSET TAIL LAMP

Price $2.25

Extreme height, 8 inches. Width of body, 4¼ inches. Ruby lens, 3 inches. Combination socket. Finish, polished brass. Unsurpassed for a low priced tail lamp.

SOLAR TAIL LAMP

Price No. 905.....$3.50
Height.....9½ inches
Price No. 906..... 5.00
Height.....13½ inches



Deitz Dainty Tail Lamp

Electric Tail Lamps

Solar Round Electric Tail Lamp

Price, each $4.50

BARREL REAR LAMP

No. 323

This rear lamp is very popular and for a low-priced lamp meets the demand perfectly. It is also equipped with the double connector.

SOLAR ELECTRIC TAIL LAMP

An electric tail lamp of seamless brass ball construction, 4½ inches high, with 3½-inch red semaphore rear, 2½-inch white and 2-inch green light. Tungsten bulb 4 candlepower, 6 volts, unless otherwise ordered. Combination props.

No. 323

Electric Tail Lamp

No. 323. Price (3" dia., 4" long) $2.25

No. 64 Tail Lamp

Popular Electric Tail Light for all vehicles. Is well made of heavy brass and highly finished. Fitted with either miniature or candelabra socket. Shines a bright red to rear, green light to side, and white light on number. Made to fit the present bracket.

This lamp is also made in a larger size with flat bracket which can be used for side lamps.

No. 64—Diameter of body, 3¾ inches. Diameter of glass, 2⅝ inches. Price complete with socket, each $3.50

No. 65—Side Lamp. Diameter of body, 4⅝ inches. Diameter of glass, 2⅝ inches. Price complete with socket, each.....$4.50

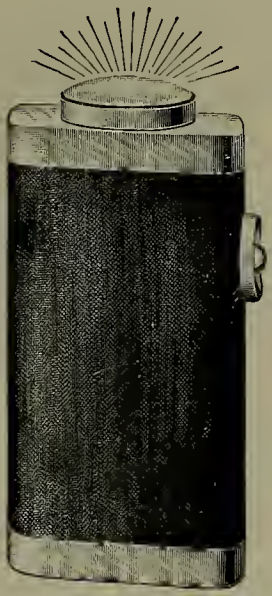
DIETZ SENTINEL TAIL LAMP

For electric current are regularly equipped with 6-volt, 6-candlepower Tungsten bulbs, a 3-inch Ruby Rear Lens easily removable for cleaning, and 2¼-inch white and green side lenses; also a combination socket taking flat or round brackets. Size, 5 inches diameter.

Price, each.....$4.00

Dietz Sentinel Electric Tail Lamp

Eveready "Osram" Flashlights—Cigar Lighter



FLASHLIGHT No. 1951

Cloth covered. Nickel trimmings. Size, 1⅛x2¼x5 inches.
Price, complete.....$1.50
Extra Battery, No. 593.....30c

FLASHLIGHT NO. 2503 AND 2504

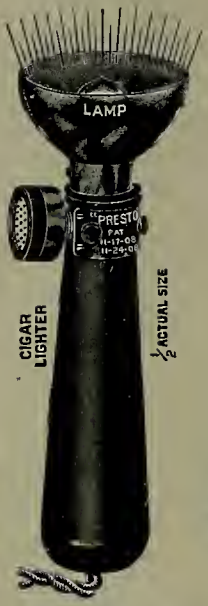
No.	Size	Each
2503	1½x8½	$1.50
	Plain Contact.	
2504	1½x8½	$1.50
	Glove Button Contact.	

Extra Battery No. 505.....30c

FLASHLIGHT NO. 6602 AND 6650

Size, 1x1⅞x3½
No. 6602...$1.25
Black Cloth Covered.
No. 6650... 2.00
White Celluloid.
Extra Battery.
No. 592.... .25

Osram Lamps produce 50 per cent. more candle power than the ordinary carbon bulbs and increase the service of the battery to a remarkable extent of time.



THE MATCHLESS CIGAR LIGHTER

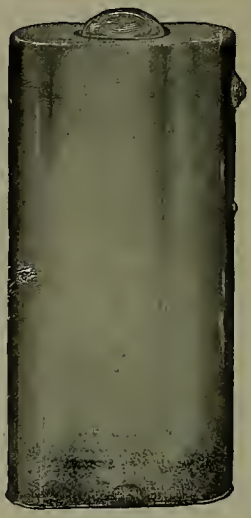
½ Actual Size

Electric Cigar Lighter; Electric Repair Lamp; Acetylene Lamp Lighter.
Price, each.....$3.00

Extra Cigar Lighter Tips—
Price, each..... .75

EXTRA BULBS

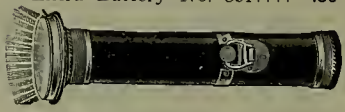
Osram, each..... .50
Reg. Carbon, each .35
Give number of lamp when ordering bulb.



FLASHLIGHT NO. 6661

Exact Size

Each, 2 cell.....$1.25
Extra Battery, No. 650.... .25
No. 6662, one-third wider.
Each, 3 cell.....$1.50
Extra Battery No. 651.... .30



FLASHLIGHT NO. 2517 AND 2518

Miners' Light, Large Lens and Reflector

No.	Size	Each
2517	1½x8½	$2.75
	Plain Contact.	
2518	1½x8½	2.75
	Glove Button Contact.	

Extra Battery, No. 505.....30c

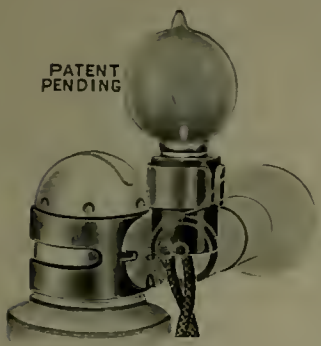
FLASHLIGHT NO. 2704

Fibre Case

No.	Size	Each
2704	1½x6½	$2.00
	Glove Button Contact.	

Extra Battery, No. 590.....25c

Electric Lights—Electric Adapters—Electric Globes

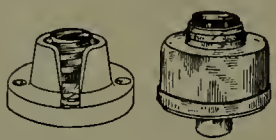


FIT-ALL ELECTRIC ATTACHMENT

Fits all oil lamps; allows instant use of oil burner in case battery runs down.
Price, without bulb.....$0.75

DIETZ ELECTRIC LAMP ATTACHMENT

Price, with bulb.....$1.75



No. 10. Porcelain Sockets. Each $0.15
No. 12. Brass Sockets. Each $0.40
No. 12 Socket is for changing Headlights from Gas to Electric.

LIGHTNING ELECTRIC ADAPTER

These sockets will fit any lamp, and cannot get loose.
Price, without bulb.....$0.75

No. 81 ELECTRIC GAUGE LAMP

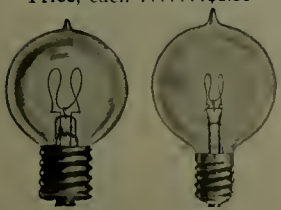
Made in three styles—"Gooseneck," "L-shape," "Angle shape."
Price, each $1.50

EXPLORING LAMP
Style No. 26 for Garages

Silvered guard, water proof socket in handle, reflector, vapor-proof globe, 16 c. p. round lamp, 12 feet slicked cord and two-piece plug.
Price $4.50

No. 82 ELECTRIC GAUGE LAMP

With pull switch. Made in three styles—"Gooseneck," "L-shape," "Angle shape."
Price, each..$2.00



Candelabra Miniature
GENERAL BATTERY LAMPS FOR EVER-READY FLASHLIGHTS

"Osram." Each...$0.50
Regular Carbon. Each ..... .35

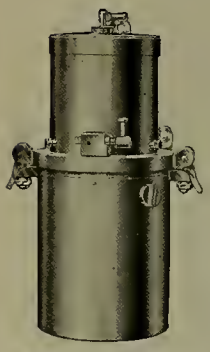
ELECTRIC BULBS
Tungsten or Tantalum

Voltage	C. P.	Each
4	4	50c
6	6	50c
8	8	50c
Carbon		
4	4	35c
6	8	35c
8	8	35c

HOLOPHANE ELECTRIC DOME LAMPS FOR LIMOUSINES

	Diam.	Depth	Each
No. 100....	4½-in.	2½-in.	$3.00
No. 110....	5- in.	1¾-in.	4.00

Generators



Solar Generators
Nos. 712 and 811.

SOLAR GENERATOR

Model No. 712, 15 inches high, 8 inches wide. Carbide capacity 3½ pounds, suitable for two headlights not consuming over 1½ feet of gas per hour.
No. 712. Brass, each $11.00

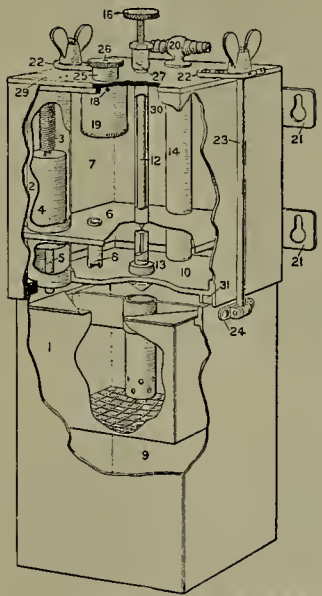
Model 811. 13 inches high, 7½ inches wide. Carbide capacity 2½ pounds. Will only supply gas for two tips consuming ½ foot per hour.
No. 811. Brass, each $8.50

SUNSET GENERATOR

Made of Heavy Seamless drawn brass, suitable for running three large lamps. Size, 15 inches high over all. Bottom, 8 inches high, 6¼ inches diameter. Top, 6 inches high, 5 inches diameter. Carbide capacity, 3 lbs.

Price, each..... $10.00

Sunset Generator



SQUARE TYPE RUSHMORE GENERATOR

The Rushmore Shaking Grate Generator has been recognized for the past three years as being the only gas generator for automobile use constructed on scientific principles. In its present form it has been considerably simplified, but without change in its two important features, namely, the Automatic Regulating Chamber and the Shaking Carbide Basket, to which its well-known steadiness and perfect operation are due.

RUSHMORE GENERATOR

	Diam.	Height	Capacity	Price
No. 1..	5½-in.	13½-in.	2½ lbs.	$11.00
No. 2..	6½-in.	16- in.	5 lbs.	17.50

CARBIDE

2-lb. cans, each	$0.25
2-lb. cans, in lots of 24 cans to a case.	5.00
10-lb. cans	1.00
10-lb. cans, in lots of 6 cans to a case..	6.00
100-lb. drums	6.25

GENERATOR PARTS

Make	Model	Carbide Basket Comp.	Rubber Gasket	Stopper
Solar	811	$0.60	$0.25	$0.40
Solar	712	1.20	.40	.40
Rushmore ..	1 and 2	1.25	.50	.40
Sunset	35	1.00	.40	.40

Gas Tanks and Accessories

GAS TANK BOX

Recharging Model E, small	$2.00
Recharging Model B, medium	2.50
Recharging Model A, large	3.75
Extra Brackets, per pair	1.50
Extra Unions, each	.50

Model E—30 cu. ft. of gas, size 6x16, using 2½-ft. burners, 30 hr. lighting. Price...$18.00
Model B—50 cu. ft. of gas, size 6x22, using 2½-ft. burners, 40 hr. lighting. Price... 25.00
Model A—85 cu. ft. of gas, size 7½x22, using 2½-ft. burners, 70 hr. lighting. Price... 35.00

Prices include 1 pair Brackets and Union Connection and Key.

Motorcycle Tanks. Price, $10.00.

Puritan Gas Tank Model "B"

Equipped with Puritan Swing Back Brackets.

Price, each	$25.00
Recharge	2.50
Extra Brackets, per pair	1.50

PURITAN GAS TANKS

Are made of seamless steel heavily coppered and are fastened to the car with the Puritan Swing Back Brackets. Puritan tanks are now recharged in Los Angeles, insuring prompt service and the best of gas.

HANDY GAS TANK KEY

Combination Gas Key and Bottle Opener 25c

Prest-O-Lite Regulating Valve

REGULATING VALVE

A handy attachment for Gas Tanks. Saves adjustment of flame at needle valve every time the lamps are lighted.

Price $1.00

GAS TANK KEY

Plain, each.....10c
Nickel Plated, each.....20c

Can be conveniently carried on key ring.

We carry Recharged Tanks in stock.

PREST-O-LITE TANK CASE

Made of pressed steel, enameled black. Complete with lock. Opening in one end for valve and pipe line in order to read gauge. In ordering state model of tank. Price, each.....$4.00

Lamp Connectors, Copper Tubing, Gas Bags

No. 1
Price, each.....$0.10

No. 2
Price, each.....$0.10

No. 3
Price, each.....$0.10

No. 4
Price, each.....$0.10

BRASS CONNECTORS FOR RUBBER TUBING

No. 5. Each $0.15

No. 6. Each $0.15

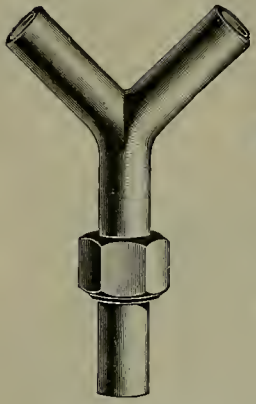
No. 7. Each $0.15

COPPER AND BRASS TUBING

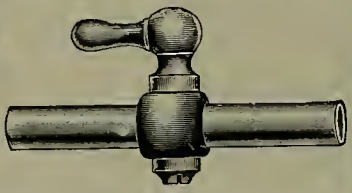
This is soft annealed copper or brass tubing, 20 gauge, and is used in connecting lamps with generator or gas tanks, also for force feed oilers, etc. Very handy to have around an automobile or in the garage.

Size	Kind	Ft.	Lb.
3-16 in.	Copper	$0.15	$1.25
¼ in.	Copper	.15	1.25
5-16 in.	Copper	.15	1.25
3-16 in.	Brass	.15	1.25
¼ in.	Brass	.15	1.25
5-16 in.	Brass	.15	1.25

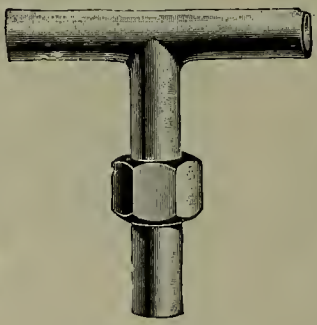
CONNECTORS FOR BRASS AND COPPER TUBING

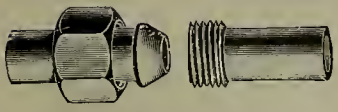


No. 16 Y UNION
Each $0.25



NO. 1 GAS TUBING COCK
Price, ¼-inch, each.....$0.25





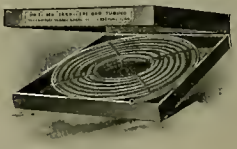
NO. 15 UNION
Price, each.....$0.20

NO. 17 T UNION
Each $0.25

UNION CONNECTORS

RUBBER LAMP CONNECTIONS

Each $0.15
With connection in center.
Each $0.25



RED RUBBER TUBING

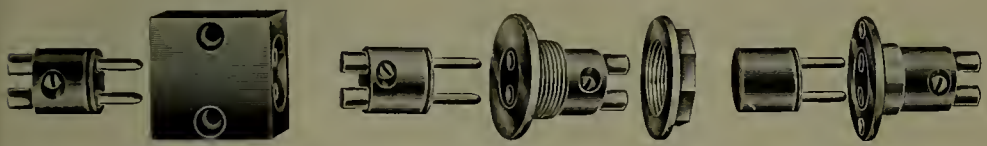
Per foot $0.10
Reinforced cloth insertion tubing for acetylene gas tanks.
Per foot $0.15

Electric Light Connectors and Switches

SOLDERING TERMINALS
No. 120. Connector.
Each $0.25

SCREW TERMINALS
No. 121½. Connector.
Each $0.35

SCREW TERMINALS
No. 123½. Connector.
Each $0.50



SCREW TERMINALS
No. 125½. Connector.
Each $0.50

SCREW TERMINALS
No. 127½. Connector.
Each $0.85

PLUG SWITCH
No. 129½. Plug Switch.
Each $0.60

These connectors are for use on automobiles when electric lighting system is installed.

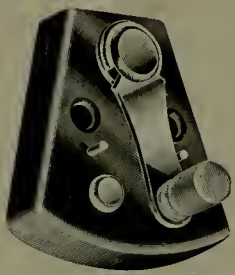
Press Button Switch

PUSH BUTTON SWITCHES

The only proper and finished article of its kind made in connection with electric lighting your car. Finished in nickel and pearl.

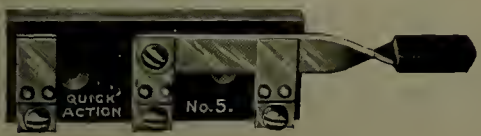
1 Button. **Price** each....$1.00
2 Button. **Price** each.... 2.00
3 Button. **Price** each.... 3.00
4 Button. **Price** each.... 4.00

KICK SWITCH—Full Size.
For electric lights.
Price each.....$0.50



KEYSTONE RUBBER SWITCH

A very neat switch for electric lamp use. Can be attached to any convenient place on the automobile.
Price each $0.40



No. 5
Base 2¾ in. by 1 in. by 5-16 in.
Price each.....$0.35

No. 3
Price, with plain handle..$0.25

QUICK ACTION KNIFE SWITCHES
For Stationary Engines and Marine Use.

Gas Tips, Gas Bags, Tip Cleaners

No. 1 BRAY LUTA

The Luta Burners are the product of the most extensive factory in the world devoted entirely to the manufacture of gas burners. These tips are practically indestructible, being almost entirely of metal. Made in ½, ¾ and 1-foot sizes.

Price, each $0.25

No. 2 PERFECTION TIP

These tips are made of Lava mounted in metal base. They are the standard for American lamps. Have perfect combustion, and will not smoke or carbonize. Made in ¼, ½, ¾ and 1-foot sizes.

Price, each $0.40

No. 3 STEWART-DOLAN

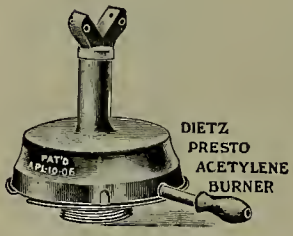
This burner throws one bright flat jet and thus eliminates the danger of breaking lens mirror reflectors by one side of the burner becoming clogged and the other side throwing a long flame against the mirror.

Price, each $0.35

No. 4 COLONIAL TIP

These burners are made of lava and mounted in metal base; will fit all lamps; gives a clear white flame. Made in ½ and ¾-foot sizes.

Price, each $0.25



GAS ATTACHMENTS

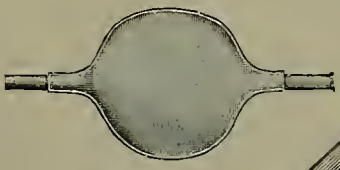
Oil lamps can be fitted with this burner by simply removing the oil burner and inserting the gas burner.

Price, each $1.25

No. 6 ALCO DE LUXE

Alco No. 6 De Luxe, the richest thing in Acetylene Gas Burners. Made in all gas sizes, ½ to 1 foot.

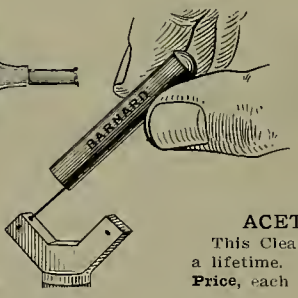
Price, each $0.40



ACETYLENE GAS BAG

Regulates the flow of gas to the burners.

Price, each $0.25

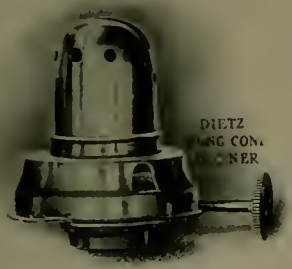


ACETYLENE BURNER CLEANER

This Cleaner contains fifty wires and will last a lifetime.

Price, each $0.30

Lamp Parts



OIL BURNERS AND FOUNT

Make	Burner	Fount Complete
Sunset Side	$ .50	$1.50
Sunset Tail	.50	1.00
Solar Side	.50	2.00
Solar Tail	.50	1.50
Gray and Davis Side	.50	2.00
Gray and Davis Tail	.50	1.50
Ham Side	.50	2.00
Ham Tail	.50	1.50
Dietz Side	.50	2.00
Dietz Tail	.50	1.50
Laurel	.50	1.50

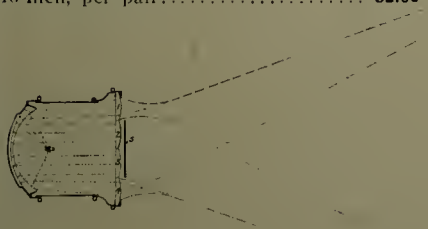
For Founts only deduct 50c.

LAMP WICKS

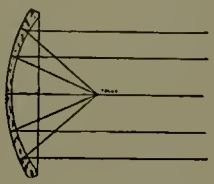
Price, per dozen..... $ .10

Price of Rushmore Non-Flicker Lense:

6-inch, per pair.....$10.00
7-inch, per pair..... 13.00
8-inch, per pair..... 17.25
9-inch, per pair..... 21.75
10-inch, per pair..... 32.00



Rushmore
Multiplex
Non-Flicker Lenses



Mirror Lenses

RUSHMORE MIRROR LENSE

These Lenses are made especially for the Rushmore Lamps, are the same that the Rushmore Lamps are equipped with.

Size 6-inch.	Price each.....	$3.50
Size 7-inch.	Price each.....	4.50
Size 8-inch.	Price each.....	5.50
Size 9-inch.	Price each.....	7.50
Size 10-inch.	Price each.....	10.00

B. AND L. MIRROR LENSE

These Mirror Lenses are of the celebrated Bausch and Lomb make, accurately ground and polished, having the rear or posterior surface silvered.

Size 5-inch.	Price each.....	$2.00
Size 6-inch.	Price each.....	2.50
Size 7-inch.	Price each.....	3.50
Size 8-inch.	Price each.....	4.50
Size 9-inch.	Price each.....	5.50

LAMP LENSES

Made of Heavy French Glass, which has the advantage of being strong and light. When ordering give size and kind of lense wanted. Made in ¼-inch graduating sizes.

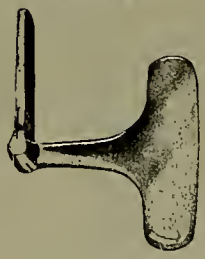
Flat Lenses.		Price.
Size 3 in. to 7 in.	Each.....	$ .40
Size 7 in. to 12 in.	Each.....	.50
Convex Lenses.		Price.
Size 3 in. to 7 in.	Each.....	$ .75
Size 7 in. to 12 in.	Each.....	1.00

RUSHMORE NON-FLICKER LENS

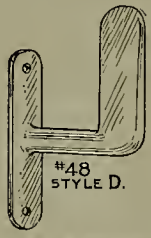
In the non-flickering searchlights, the plane glass strips in the front door are replaced with heavier strips 2 inches wide which are flat on the rear side, while the front side is accurately ground and polished to a convex curvature. These lens strips spread the light out in a horizontal plane, the non-flickering beam giving a wide field and perfectly even illumination without any spreading up or down. A car driven 60 miles an hour has shown that the flickering is completely eliminated.

Lamp Brackets

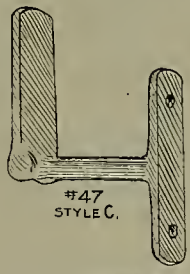
SIDE LAMP BRACKETS



No. 5. Brass Dash Bracket
Price, each.....$ .60



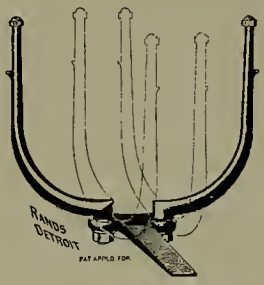
No. 48. Brass Dash Bracket
Price, each.....$ .60



No. 47. Brass Side Bracket
Price, each.....$ .60

No. 55-B Bent Pitchfork Bracket

The brackets here illustrated are made of drop forgings, giving them great tensile strength and toughness. These brackets are capable of withstanding the most severe strains.

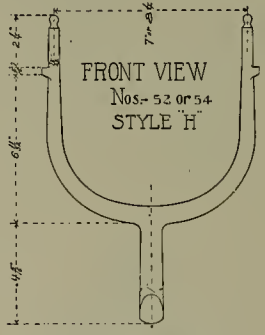


No. 1. Adjustable Bracket

This bracket is forged throughout; the props are adjustable and can be fastened to any desired width. A practical, strong and well-finished bracket.

Drop Forged, Brass Plated.

Price, each.....$2.50



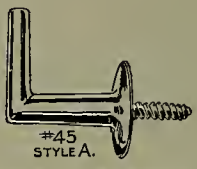
No. 55. Pitchfork

Drop forge made for 6-inch, 7-inch and 8-inch Headlights.

Each.....$1.00
No. 55-B, 6-inch, each.....$1.00
No. 55-B, 7-8-inch, each..... 1.00

TAIL LAMP BRACKETS

No. 20. Tail Bracket
Price, each.....$ .50



No. 45. Tail Bracket
Price, each.....$ .75

No. 50. Tail Bracket
Price, each.....$ .45

In our selection of Lamp Brackets we have catalogued and carry those most extensively used and which we have found best adapted to the many makes of automobiles.

D4 DU4 D6

Bosch Magnetos

Scientifically designed and painstakingly built of the finest material obtainable, BOSCH MAGNETOS have always been noted for their perfect construction, superb quality, fine workmanship and durability.

Their ignition efficiency, power, endurance and never-failing reliability are qualities that have made BOSCH Magnetos **THE IGNITION STANDARD OF THE WORLD.**

BOSCH equipped Cars, Motorcycles, Motor Boats and Airships are constant winners of speed races, endurance and reliability runs. The Wright Brothers risk their lives on the reliability of the BOSCH MAGNETO; you can depend upon it for your motor driven vehicle.

CHIEF ADVANTAGES

Inexhaustible Source of Current—The current is produced mechanically by transforming mechanical into electrical energy. The magnetic field is formed by permanent steel magnets of a practically unlimited life.

No Coil—Compared with other high tension ignition systems the Bosch Arc Light Ignition System requires no induction coil. High tension current is generated directly in the armature winding.

Hot Sparks—The sparks of the Bosch Arc Light Ignition System differ very considerably from those of other systems. They do not appear as short sparks but as small arcs which continue for a considerable time. These hot discharges will ignite much poorer mixtures than can be ignited with the usual jump spark system.

Simple Connections—Apart from the cable connecting the magneto to the plugs, there are no external connections with the Bosch Arc Light Ignition System. The complication of the electrical system resulting from the numerous connecting wires used with other systems of ignition is entirely absent in this system, which fact greatly facilitates the location of defects.

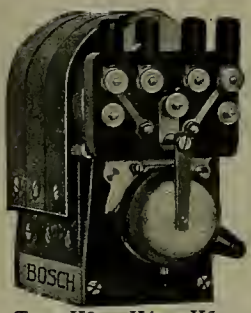
Prices

D6 for large 6-cyl. mach.	$135.000	DU4 (with advance)	$75.00
DR6 for small 6-cyl. mach.	105.00	DU4 (without advance)	72.00
D4 for large 4-cyl. mach.	126.00	DU2 for 2-cyl. mach.	54.00
DR4 for small 4-cyl. mach.	93.00	DU1 for 1-cyl. mach.	45.00

H. D. H. $126.00

K4 FOR
4-CYLINDER
$84.00

K6 FOR
6-CYLINDER
$90.00



Type K3 — K4 — K6

PLUGS
$12.00 EACH

New Bosch Magnetic Plug Ignition

The current is produced in the armature rotating between the pole shoes of permanent steel magnets.

During each revolution of the armature two impulses of current are produced which are distributed to the different magnetic plugs of the various cylinders by means of a distributor on the magneto.

The variation of the time of ignition is effected by a timing lever to which two steel segments are attached, same effecting the interruption of the short circuit in the armature winding and thus causing the current to flow to the magnetic plugs.

The plugs are connected to the magneto with single wire cables.

The contact of the plugs between which the sparks occur, project into the interior of the combustion chamber of the motor.

Absolute Reliability, as the insulation of the low tension current does not present any difficulties.

No Extra Camshaft and no mechanical make and break tappets, as the interruption is effected by the current itself.

Wear and Tear greatly reduced, few wearing parts which are easily renewed.

THE NEW BOSCH DUAL IGNITION

combines in a simple manner magneto and battery ignition dispensing with all the complications which exist in all other dual systems.

The Bosch Dual Ignition requires:

no separate distributor for battery ignition,
no separate contact breaker,
no separate switch.
no bulky coil box,
no complicated wiring,
no additional set of spark plugs for battery ignition,
no external connections between switch and coil.

Prices

D6 complete, with coil	$171.00	D4 complete, with coil	$162.00
DR6 complete, with coil	141.00	DR4 complete, with coil	129.00

DAV

Bosch High Tension Magnetos for Motor Cycles

DAI

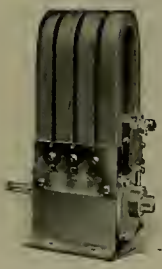
Fn, without distributor, for multicylinder motors	$51.00
DAV, for V-shaped twin motors	45.00
DA 2, for single-cylinder motors	39.00
DA 1, for single-cylinder motors up to 1½ H. P	36.00

BOSCH SPAREPART BOXES

A Necessity for Every Tourist

D 6, large size	$20.00
D 6, small size	6.90
DR 6, large size	20.00
DR 6, small size	6.90
DR 4 and D4, large size	20.00
DR 4 and D 4, small size	6.90
HDH, large size	16.00
HDH, small size	10.00
DAV	12.25
DA 2	12.00

K. W. Magnetos



MODEL A

Belt or Gear Drive.

Dimensions.

Base, 4x5 inches. Around Magnets 4x3 inches. Height 10½ inches. Weight 21½ pounds. Shaft ⅝ inch. From bottom of base to center of shaft 1⅞ inches.

MODEL A, FOR JUMP SPARK IGNITION ONLY—MODEL A-L, FOR COMBINATION IGNITION AND LIGHTING OR LIGHTING ONLY

Runs in either direction and in any position. If wanted to run on the side or in inverted position, advise us, and we will equip the oil cups accordingly. This Magneto is simple, efficient, and durable, and will start any engine without batteries. Can be driven by belt, gears, or sprocket and chain and must run at least three times engine speed.

Model A. **Price** each.....$35.00
Model A-L. **Price** each..... 50.00

MODEL B FOR JUMP SPARK IGNITION ONLY

MODEL B-L FOR COMBINED IGNITION AND LIGHTING, OR LIGHTING ONLY

The internal working parts of this Magneto are the same as Model A, except that it has a different end piece and a sliding base, and is intended to be driven by friction only. It is equipped with a very wide friction wheel, which is filled in with sole leather friction washers, and will not slip, as the tension spring holds the Magneto securely up against the flywheel.

Model B. **Price** each.....$35.00
Model B-L. **Price** each..... 50.00

MODEL B

Friction Drive.

Dimensions.

Base 6½x7 inches. Around Magnets 4x3 inches. Height 11 inches. Weight 23 pounds. Shaft ⅝ inch. Length over all, including shaft, 8¾ inches.

MODEL F

Belt Drive.

MODEL F FOR IGNITION ONLY

MODEL F-L FOR COMBINED IGNITION AND LIGHTING OR FOR LIGHTING ONLY

The same as Models A and A-L, except that it is inverted and has a rounded base, to take up less room, and its magnets are one inch shorter. It has a bracket for easy mounting by bolting to the frame of the car or to a bracket or brace made for the purpose. It will run in either direction and can be mounted in any position, and we guarantee perfect results on any engine, regardless of its horsepower or number of cylinders, just so it gets the proper speed, which is about four times as fast as the engine.

Model F. **Price** each.....$35.00
Model F-L. **Price** each..... 50.00

Increases the power of a multiple cylinder engine by having only one fast vibrator and one powerful condenser for all cylinders, thus giving the same ignition in each cylinder and a smoother running engine with no loss of power by unequal firing.

THE K-W MASTER VIBRATOR WILL OPERATE IN CONNECTION WITH EITHER BATTERIES OR THE K-W MAGNETO

With any make of coil by short circuiting the vibrators and letting the K-W Master Vibrator work for all cylinders, thus giving perfect synchronism and more power.

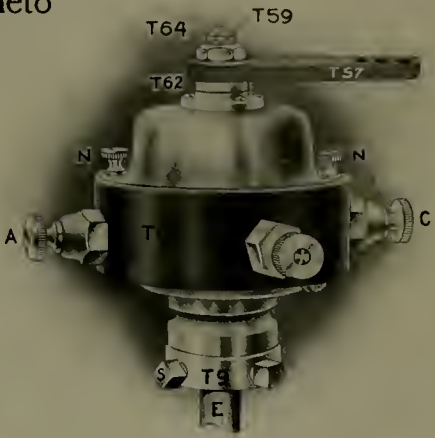
Price each $15.00

When ordering give Model and year make of car, diameter of flywheel, etc.

K-W
Master Vibrator.

Seeley Ignition Magneto

Condenser



Coil

MODEL E4
SEELEY IGNITION SYSTEM

Description

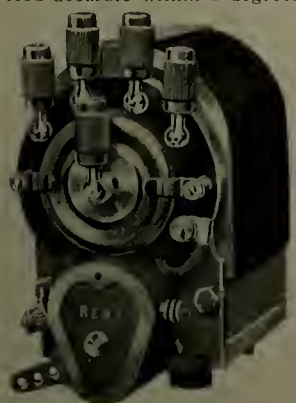
The Seeley System, Type AE, consists of a Condenser in a hardwood case, size 3x4x7 inches, designed to attach to frame or dash under the hood, and a Resonator, or secondary, coil of cylindrical form, designed to attach to each cylinder of the motor in close proximity to the spark plug, doing away with secondary cable. Also a first-class two point Switch, and the Seeley Circuit Controller, Model E, which takes the place of the ordinary timer, especially designed for this System, but equally valuable for use with vibrator coils—a mechanical and electrical masterpiece, built with the utmost care and precision.

Type AE1, One Cylinder $27.50
Type AE2, Two Cylinder 35.00
Type AE3, Three Cylinder 42.50
Type AE4, Four Cylinder 50.00
Type AE6, Six Cylinder 65.00

Type AE supersedes Type AD—Discontinued.

CONTROLLER, MODEL E

This Controller is a later development of Model D, which has been discontinued. Will not stop on contact, thereby preventing exhaustion of batteries by carelessness in leaving switch on contact. Will not operate a motor backward, making it particularly adapted to two-cycle motors. This is too high-class an instrument to be classed with timers. Guaranteed accurate within 2 degrees.



Type S
Remy Magneto

THE 1910 REMY HIGH TENSION MAGNETO

contains many new features which places it amongst the foremost magnetos on the market.

Reliability—Fewer parts than any other ignition system. Broad margins for abuse, electrically and mechanically. Durable construction.

Increased Power—The Magneto being gear driven, the spark is timed accurately. This with the great heat of spark increases the horse power from 5 to 20 per cent. Perfect timing cannot be obtained from vibrator coils which also make a much weaker spark.

Dual System—Magneto and battery systems, both complete, and either ready for instant use at any time without complication.

Price, Complete, Four-Cylinder..... $75.00

Unisparker Batteries

Standard Coil Box
Self-Starting Switch

ATWATER KENT UNISPARKER TYPE B

Price List

	Standard Coil
2-Cyl., with distributer	$27
3-Cyl., with distributer	30
4-Cyl., with distributer	30
6-Cyl., with distributer	32

Coil equipped with kick switch $3.00 extra.

Showing Terminals Placed Vertically

Description

Like the Atwater Kent Unisparker, which has met with such unqualified approval of the motoring public during the past, the Type "B" Unisparker consists of a contact maker and distributer in one unit, which is placed on the timer shaft of the engine, and a non-vibrating coil, condenser and switch in a second unit, which is set on the dash, or in the case of a motor boat or stationary engine, in any convenient place. The important feature of this apparatus is that it provides at an extremely low cost all of the exeellent features of the Atwater Kent Spark Generator, with which automobile users are now familiar.

There is no commutator used with the Type "B" Unisparker, neither are there any vibrators connected with the system. The one coil which is used is a simple, non-vibrating transformer coil, poured solidly in wax cement.

The only adjustment which is necessary on this instrument is a quarter turn on an adjusting screw, conveniently located, every thousand miles or so.

Source of Current

Current is derived from a set of six or eight dry cells, which last from 2,500 to 3,000 miles, often more, in the average four-cylinder car.

Direction of Rotation

The Unisparker is furnished to run either right-handed (clock-wise) or left-handed (counter-clockwise), and it is essential to specify the direction desired when ordering, since a reverse rotation of the Atwater Kent apparatus produces no spark.

The Sunset Battery

THE C. & L. BATTERY

We have placed this Storage Battery on the market to meet the demand for a good reliable, first-class, low-priced ignition battery. There is nothing cheap about it but the price, which we are able to make through the fact that we shall build these in great quantities.

Volts.	Amp.	Price
6	40	$15.00
6	60	17.00
6	80	22.00
6	100	27.00

VACO BATTERY

A Good, Reliable Battery. Non-corroding terminal Posts. 6 volts, 60 amperes.
Price $12.00

Vaco Battery

Storage Batteries

EXIDE STORAGE BATTERY

THE EXIDE SPARKING BATTERY

The success of a Sparking Battery depends largely upon two features: the type of plate and the method of assembling.

The elements of the Exide Sparking Battery are of the Exide Type. The method and details of assembling are based upon experience with thousands of cells and are designed for strength and durability.

Instructions are furnished with each battery.

Price List

No.	volts	amps.	Length	Height	Width	Price
52	4	40	5¾ in.	9 in.	6⅜ in.	$14.00
53	6	40	7½ in.	9 in.	6⅜ in.	20.25
73	6	60	10 in.	9 in.	6⅜ in.	25.25
93	6	80	11⅞ in.	9 in.	6⅜ in.	30.50
112	6	100	14⅛ in.	9 in.	6⅜ in.	35.75

SUNSET SPECIAL LIGHTING BATTERY

This Battery is built expressly for electric lighting service where a much higher rate of discharge is employed than for ignition work. It is rated at 100 ampere hours at a ten ampere discharge rate.

The weight, heavy load and hard usage which a battery of this size is subjected to necessitate special construction.

It differs from the smaller Sunset sizes in that three separate jars are used instead of the three compartment jar and a heavy oak case instead of the steel case.

Heavy Japanned steel handles are used for lowering into the battery box.

SIZE: 14¾"x6¾"x9¾" high.

Price, each $30.00

VESTA 6 VOLT 60 AMPERE HOUR BATTERY

The standard 6 volt 60 ampere hour battery is the size battery that is universally used for sparking the gas engine in the automobile. This size battery will run the average four-cylinder car under ordinary conditions from 800 to 1,000 miles on a single charge. In this type of battery solidified sulphuric acid is used, it being about the same consistency as ordinary table jelly.

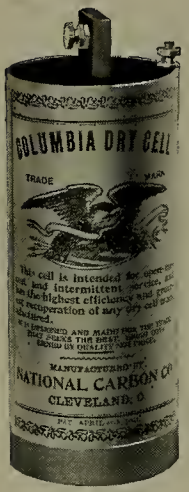
Prices

STANDARD 60 AMPERE HOUR SPARKING BATTERIES

Standard 60 Ampere Hour Sparking Batteries.

4 Volt (9½ long, 3⅞ wide, 9 high) ..$14.00
6 Volt (9½ long, 5⅜ wide, 9 high) ...21.00
8 Volt (9½ long, 7 wide, 9 high) .. 28.00

Dry Batteries



COLUMBIA
Columbia Dry Cells.

Columbia Red Top Ignitor Cells contain more amperes than the standard cells.

No. 6—2½x6 in.
Each $0.30
No. 7—3 x7 in.
Each ..... .65
No. 8—3½x8 in.
Each ..... .75

COLUMBIA MULTIPLE BATTERIES

Columbia Dry Cells can now be had connected up in Series Multiple in metal box container with Binding Posts for connecting the primary wires.

No. 246—Eight cells, Series Multiple..... $3.25
No. 346—Twelve cells, Series Multiple..... 4.75
No. 446—Sixteen cells, Series Multiple..... 6.00

ROUND EVER-READY DRY CELLS

Type J No. 6—2½x6.
Each $0.30
Type K No. 7—3x7.
Each ..... .65
Type L No. 8—3½x8.
Each ..... .75

EVER-READY MULTIPLE BATTERIES

Consists of Ever-Ready Cells in series multiple in wood or japanned metal boxes, with binding posts to connect the primary wires.

No. 418— 8 cells in wood box..... $3.50
No. 422—12 cells in wood box..... 5.00
No. 426—16 cells in wood box..... 6.00
No. 420— 8 cells in metal box..... 3.75
No. 424—12 cells in metal box..... 5.25
No. 428—16 cells in metal box..... 6.25

SQUARE EVER-READY DRY CELLS

Type J No. 6—2½x6.
Each $0.30
Type K No. 7—3 x7.
Each ..... .65
Type L No. 8—3½x8.
Each ..... .75

We Carry Absolutely Fresh Batteries in Stock.

Hydrometers

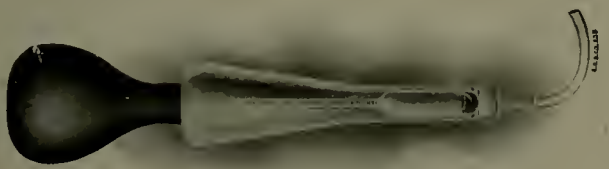
THE ELECTROLYTE TESTER

Actual Size.

Price, each $1.50

This instrument takes the place of the usual Hydrometer, Hydrometer Jar and Syringe and combines in one simple device a means for testing the electrolyte or acid of a Storage Battery to the simplest operation. It requires only a tablespoonful of acid and the acid is returned to the cell without removing the instrument from it.

Directions.—Compress the bulb and insert the nozzle through the cover of the battery and allow the acid to fill the tube. If the acid is at its proper strength, 25 to 30° B 1200 to 1250 Specific Gravity, both balls will remain in the center of the tube when the battery is fully charged. If both balls float, the acid is too strong and it should be reduced by adding water. When the battery is discharged, if both balls sink, the battery should be fully charged. If the white ball does not then float stronger acid should be added.



NO. 1 ACID HYDROMETER

Price each $3.25

The gauge in the storometer indicates the specific gravity of the fluid when it is withdrawn by pressure on the bulb after pointed tube is inserted in the opening of the storage cell.

The proper density of the fluid when battery is fully charged should be from 1215 to 1250. Assuming that a reading is taken at full charge and it is 1225, then starting to discharge at 1225.

80 per cent of charge is left when gauge indicates 1200
60 per cent of charge is left when gauge indicates 1175
40 per cent of charge is left when gauge indicates 1150
20 per cent of charge is left when gauge indicates 1100
Practically exhausted when gauge indicates.....1100

These figures are not absolutely accurate, but will serve approximately to indicate the state of charge.

Price each..... $3.25

HYDROMETER SYRINGE

Used for testing the specific gravity of the acid of batteries for making the electrolyte, for regulating the quantity of acid above the plates or filling batteries with electrolyte.

The instrument is 19 inches long with the nozzle attached.

It is furnished in two styles as below.

In polished oak box with plain and filler nozzles. Length 21 inches; 3½ inches square. Weight, packed, 3 lbs.

Price $6.00

In plain pine box with plain nozzle only. Length 15 inches; 3½ inches square. Weight, packed, 2½ lbs.

Price $4.50

Hydrometer Syringe

Suitable for Shop and Recharging Plants.

NO. 3 ACID HYDROMETER.

This Hydrometer comes in nickel case, 1x6 inches; is similar to No. 2 Gasoline Hydrometer (on page 74), but with scale for testing acid. Can be carried safely in tool kit.

Price each..... $1.25

Ammeters and Volt-Ammeters

CONNECTICUT VOLT AND AMMETER

The new 1910 type of Meters are all made on the Dead Beat principle, and are fitted with a metal dial, silver plated and etched with the scale in raised black. This combination makes a handsome as well as a most durable instrument, as it will not be affected by heat, cold, or moisture. Packed in neat leather case.

Price List.

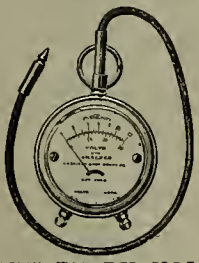
No. Volt Ammeters

802. 0-30 amperes, 0.6 volts. $5.00

0802. 0-30 amperes, 0.15 volts. $6.00

Ammeters

803. 0-30 amperes.....$3.50



EVER-READY VOLT-AMMETER

This is a combination instrument designed to register exactly the strength of a dry cell, both in amperes and volts. It is thoroughly well made and of convenient size to carry in the vest pocket, they being no larger than a watch. Register 0 to 12 volts; 0 to 30 amperes.

Price each.....$3.00

Packed in Chamois Leather Pouch.

It is just as necessary for an automobilist to know the exact condition of his batteries as it is to know the quantity of gasoline he may have in his tank.

These instruments are designed to show the exact condition of your batteries at all times, either storage or dry cells.

RELIANCE VOLT-AMMETER

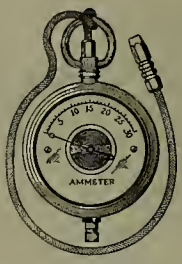
An excellent pocket instrument for testing dry cells or storage batteries. Just the size of watch. Accurate and efficient. Practically dead beat. Testing cord may be easily attached or detached.

Volt Ammeter

0.10 volts, 0.30 amperes.$2.75

Ammeters

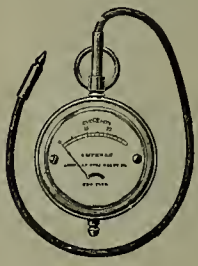
0.30 amperes $2.00



SUNSET AMMETER

These instruments are calibrated with absolute accuracy. They will respond most accurately and will give the value of a battery instantaneously. Every instrument is guaranteed. Indicates 0.30 amperes.

Price each.....$2.00



EVER-READY AMMETER

This ammeter is for general battery testing; is absolutely accurate and fully guaranteed. It is a dead beat instrument which makes it popular.

A reliable first-class article at a moderate price. Registers 0 to 35 amperes.

Price each.....$2.00

Packed in Chamois Leather Pouch.

Coil Current Indicators---Volt-Ammeters

CONNECTICUT COIL CURRENT INDICATOR

The sound of the vibrator affords little indication as to the amount of current passing or proper adjustment and the only sure and safe way to know "where you are at" is by using this indicator, and your adjustments should always be made by the aid of the same.

This device consists of a special form of indicating meter, attached to which is a double conducting cord and metallic circuit plug, and with which it is possible at any time to see just how much current you are drawing from your battery.

Price

Including Plug Cord and Case.....$5.00
Also furnished with Double Terminal for use on any make coil..... 5.50

ELDREDGE CURRENT INDICATOR

The auto coil indicator eliminates all "guesswork."

This instrument is especially constructed for the vibratory induction currents of a spark coil. It has a range of 2 amperes in one-tenth divisions. No coil made ought to take a larger current than this instrument can register, and most people are surprised to find that most satisfactory work is done with a current consumption of less than one ampere.

Advance. Indicates in both directions.

Price, each $5.00

"NEVER-MISS" AMMETER

Furnished with a neat case, just right for the pocket.

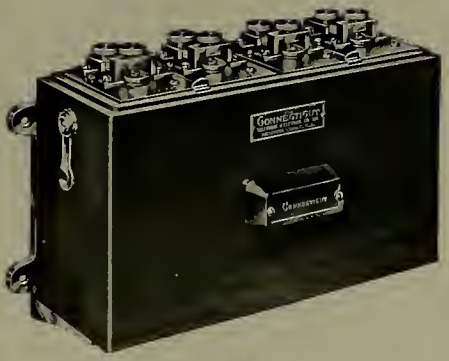
Price, 30 amperes $2.25
Combination Volt and Ammeter, 8 V. 30 A. 2.75

THE HOYT TRIUNE

Combination Voltmeter, Ammeter and Coil Indicator. Voltmeter scale 0-10, readable to 1-5 volt. Ammeter scale 0-30, readable to ½ amp. Ammeter scale 0-1½, readable to 1-20 amp. For testing storage batteries, dry cells and induction coils. Packed in a plush-lined Morocco case.

Price, each, with case.....$12.00

Connecticut Coils



4 CYLINDER, TYPE A, DASH COIL

Priee List.

1 Cylinder—Plug Switch	$13.50
1 Cylinder—Magneto Switch	15.00
2 Cylinder—Either Switch	25.00
4 Cylinder—Either Switch	50.00
6 Cylinder—Either Switch	75.00

4 CYLINDER, TYPE X, DASH COIL
With Plug Switeh

Price List.

1 Cylinder	$ 8.00
2 Cylinder	16.00
4 Cylinder	30.00
6 Cylinder	45.00
Magneto Switch, extra	1.00
Units, each	7.00

TYPE X DASH COIL

This is a new coil designed for the purpose of filling the requirements for a less expensive coil than our standard make, more particularly where coils are used as a secondary system, for starting or emergency purposes, depending upon a magneto for the primary ignition. It is made up in the very best possible manner, but is considerable smaller than our standard coil. It is built on the unit principle with removable units, as shown, and is fitted with either type "L," type "P," or magneto switch, as desired.

CONNECTICUT MARINE COILS

1 Cylinder	$ 9.00
2 Cylinder	18.00

Covered Marine Coils.

1 Cylinder, less switch.	$ 9.00
1 Cylinder, with switch.	10.00

Switches, see pages 49-50.
Parts, see page 48.

These coils are adapted not only for marine work, but will be found highly satisfactory for any style of stationary or automobile engine where the more expensive type of dash coil is not required.

The eovered or dash type will be found a most convenient type, as all parts are protected from spray or rain and any number of these single cylinder coils can be placed side by side to make a multiple cylinder coil of any size desired.

Connecticut Coils

TYPE M. V. (Master Vibrator), DASH COIL WITH MAGNETO SWITCH

This type of coil is built on what is known as the master vibrator principle, using but one vibrator which produces the electrical interruptions in the rhumkoff windings.

With the ordinary type of spark coil, employing one vibrator for each coil, it is necessary to adjust each vibrator independently and unless they are adjusted so as to draw the same amount of current and are identical in construction and insulation, the results obtained from the engine are anything but uniform, for the reason that a heavy current passing through a coil will give a later spark in the cylinder of the engine than a light current would under the same conditions.

Prices Fitted with Single Master Vibrator

2 Cylinder	$16.00	Type 1 MV Vibrator Unit (Single)	$3.00
4 Cylinder	30.00	Type 2 MV Vibrator Unit (Double)	6.00
6 Cylinder	45.00	Type 3 MV Units (no Vibrators) (Illustrated in box.)	7.00
Double Vibrator, extra	3.00	Magneto Switch, extra	1.00

The Vibrator Unit is made in two styles, single and double. The accompanying illustration shows the double vibrator type, this construction giving a spare vibrator which can be instantly brought into use by reversing the unit. Coils can be fitted with either Plug, Lever or Magneto Switch.

All units are interchangeable and can be removed without disconnecting a wire and without the use of any tools. Simply throw the spring forward and lift them out. The Vibrator and contact screws are adjustable and are self-locking and will produce a hotter spark than any other coil now on the market. The cases are of selected, finely finished mahogany. Water strip around the bottom edge makes short circuiting impossible.

Note—Specify Type and Number of Unit wanted when ordering extra Units.

Type and number marked on bottom of each unit.

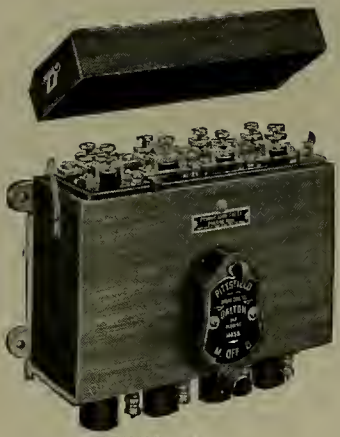
TYPE A UNIT
Price $12.00

Switches—See pages 49-50.

Coil Parts—See page 48.

TYPE 2 MV VIBRATOR UNIT (Double)
Prices above.

Coils



1910 PITTSFIELD COIL

The Pittsfield Dash Coil is equipped with the new Pittsfield Switch, arranged for Double Battery or Dual Ignition systems. A new side catch which allows the top of the box to be quickly removed and yet which holds the top securely against jar, is a new and attractive feature.

The Pittsfield Four-Cylinder Dash Coil has undergone several changes, chief of which are the shortening of the Case, which is of great advantage when used on the short overhung dashes now in style, and the Vibrator, which is a modification of our previous vibrator and is at the same time just as efficient and much simpler.

These Coils can be furnished with any style of switch desired and for an extra charge of one dollar will be equipped with our Combination Hinged Bracket.

Price List

	Each		Each
1 Cyl. Dash Coil with M. & B. Sw...	$12.60	4 Cyl. Dash Coil	$35.00
2 Cyl. Dash Coil with B. & B. Sw....	20.00	6 Cyl. Dash Coil	53.00
3 Cyl. Dash Coil with B. & B. Sw....	29.00	Hinge Brackets on all Coils, $1.00 extra.	
Units, each			$7.00

TYPE A 0165A

Switches—
See pages 49-50
Coil Parts—
See page 48.

TYPE B0167

The Pittsfield Motorcycle Coils afford the highest amount of serviceability and satisfaction obtainable. They are made in two different types, the conical (Type A) and the flat (Type B) end, and are equipped with four or with five leads for single or twin-cylinder motorcycles.

Price List

Type A		Type B	
0165A—1 Cyl., 4 Lead Motorcycle Coil	$8.00	0164B—1 Cyl., 4 Lead Motorcycle Coil	$8.00
0166 —2 Cyl., 5 Lead Motorcycle Coil	9.00	0167 —2 Cyl., 5 Lead Motorcycle Coil	9.00

Sunset Coil
For Marine and
Gas Engine Coil

SUNSET COIL

This Coil is put up for use where the engine does not have a very high compression. It is an exceptionally good coil and one which we guarantee. It has the regular Vibrator and operates on a small amount of current.

Furnished in oak box.

Price

1 Cylinder	$5.00
2 Cylinder	8.00

Splitdorf Coils

Four Cylinder Regular Dash Coil

Two Cylinder Regular Dash Coil

1910 SPLITDORF REGULAR DASH COILS

Maintain their reputation of previous years. All are equipped with the famous Splitdorf Hammer Blow Bogart-Vibrator or with ratchet screw adjustment; simplified highly efficient wiring; removable units and polished oak or mahogany cases in both regular and synchronized type of dash coils.

Price List

1 Cyl. Dash Coil.....each	$12.50	4 Cyl. Dash Coil.....each	$45.00
2 Cyl. Dash Coil.....each	22.50	6 Cyl. Dash Coil.....each	60.00
3 Cyl. Dash Coil.....each	34.50		

Extra units specify type.

Switches—
See pages 49-50.

Coil Parts—
See page 48.

Synchronizing Vibrator

THE SPLITDORF SYNCHRONIZING VIBRATOR

Can be attached to any vibrating coil, but can be used to especial advantage with the Splitdorf Coil on account of its patented auxiliary condenser. This instrument, by screwing down tightly all the vibrators of the Regular Coil and connecting in the Synchronizing Vibrator between the batteries and switch connections on the bottom of the Regular Coil, gives the same effect as the new type Synchronized Dash Coil.

FOUR CYLINDER SYNCHRONIZED DASH COIL

Showing the one synchronizing vibrator for the four units which makes misfiring impossible. This type can also be had in two, three and six cylinders.

Price List

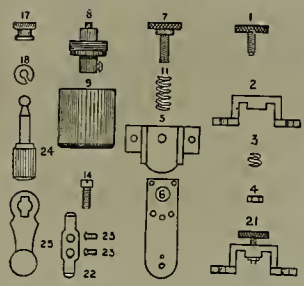
2 Cyl. Dash Synch. Coil.....	$30.00	4 Cyl. Dash Synch. Coil.....	$50.00
3 Cyl. Dash Synch. Coil.....	40.00	6 Cyl. Dash Synch. Coil.....	70.00
Synchronizing Vibrator	$20.00		

SPLITDORF BOX COILS

No. 1 B—1 Cylinder.....	$ 9.50
No. 2 B—2 Cylinder.....	19.00
No. 3 B—3 Cylinder.....	28.50
No. 4 B—4 Cylinder.....	38.00

Coil Parts

CONNECTICUT COIL PARTS

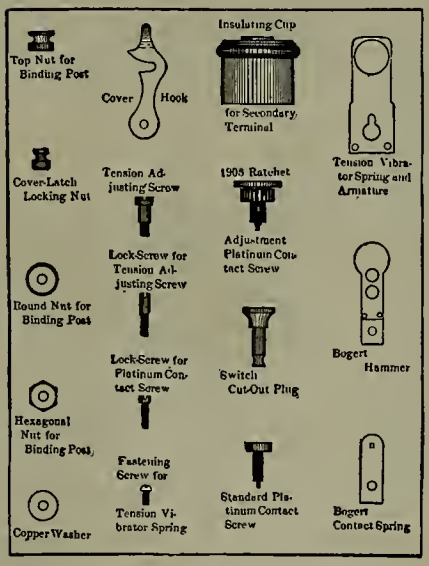


No.	1	Contact screw with platinum point $1.00
No.	2	Bridge .50
No.	3	Bridge spring .05
No.	4	Bridge nut .05
No.	5	Rocker base .75
No.	6	Vibrator spring with platinum contact 1.00
No.	7	Vibrator adjusting screw .25
No.	8	Secondary binding post .25
No.	9	Secondary binding post cap .20
No.	11	Rocker base spring .05
No.	14	Retaining screw for rocker base & bridge .05
No.	17	Primary binding post nut .10
No.	18	Primary binding post washer .05
No.	21	Bridge complete 1.50
No.	22	Unit primary contact spring .05
No.	23	Screw for No. 22 spring .03
No.	24	Plug for plug switch .15
No.	25	Lever for lever switch .15

In ordering parts please specify the type of unit for which they are desired. Units marked on the bottom.

PITTSFIELD COIL PARTS

Vibrator Blade, complete	$0.75
Auxiliary Spring	.05
Bridge	.20
10-40 Vibrator Screw	.05
Platinum Screw	.75
Vibrator Block	.25
Adjusting Screw	.05



SPLITDORF COIL PARTS

Tension Vibrator, Spring and Armature	$1.00
Bogert Hammer	.20
Bogert Platinum Contact Spring	1.00
Ratchet Platinum Contact Screw	1.00
Standard Platinum Contact Screw	1.00
Insulating Cap for Secondary Terminal	.20
Cover Hook	.06
Tension Adjustment Screw	.05
Lock Screw for Tension Adjusting Screw	.05
Lock Screw for Platinum Contact Screw	.05
Fastening Screw for Tension Vibrator Spring	.05
Top Nut for Binding Post	.05
Cover Latch Locking Nut	.05
Round Nut for Binding Post	.05
Hexagonal Nut for Binding Post	.05
Copper Washers, per doz	.10
Iridium Cont. Spring (Tension or Bogert	3.00
Iridium Cont. Screw (Stand. or Ratchet)	3.00
Synchronizing Platinum Cont. Spring	1.50
Ball Ratchet Spring	.20
Ratchet Screw Bridge	.50
Bogert Hammer Stop	.20
Bogert Spring Hexagon Nuts	.05
Regular Switch Plug	.10
Brass Ring for Regular Switch	.40
Enclosed Switch Key	.20

OTHER COIL PARTS

Make	Style	Plat. Cont. Springs	Plat. Contact Screws	Switch Plugs
Heinze	'07	$1.00	$1.00	$0.20
Heinze	'09-'10	1.00	1.00	.20
National	'09-'10	1.00	1.00	.20
Kingston	'09-'10	.50	.75	.20
J. & B.	'09-'10	1.00	Plat. Bridge .75	.15
Pfanstiehl	'09-'10	1.25	1.15	.15
Atwater-Kent	'09-'10	1.00	....	...
Unisparker			1.00	25

When Ordering Coil Parts, State the Type of Unit and Year Model.

GENUINE PLATINUM AND IRIDIUM SHOT FOR COILS AND MAGNETOS

No. 1—Small Size Platinum Point	$0.35	Large Iridium Point	$3.00
No. 2—Medium Size Platinum Point	.50	'09 Remy Magneto Platinum Point	1.25
No. 3—Large Size Platinum Point	.75	'07 Remy Magneto Platinum Point	3.00

Switches

Type P
For Batteries only.
Price, each $1.00
Extra Plug ..... .15

CONNECTICUT SWITCHES

Very popular and neat. Switches arranged to throw in either set of batteries or both together, if desired, by placing the plug in the center hole.

Type L
For Batteries only.
Price, each $1.00
Extra Lever ..... .15

PITTSFIELD SWITCH

This is a double-throw switch, connecting either set of batteries or both. Lever is removable.

Pittsfield Switch
For Batteries only.
Price, each $1.50
Extra Lever..... .30

NATIONAL SWITCH

Lever can be removed to prevent theft. A double-throw switch, connecting either set of batteries or both.

National Switch
For Batteries only.
Price, each $0.75
Extra Lever .. .. .20

SPLITDORF REGULAR SWITCH

For Batteries only.

Price, each $1.00
Extra Plug ..... .10

SPLITDORF 1910 ENCLOSED BATTERY AND MAGNETO SWITCH

Either, neither, or both.

Price, each $2.50
Extra Key ..... .25

SPLITDORF ENCLOSED SWITCH

For Magneto and Battery.

All metal parts are enclosed, making a short circuit impossible. Easy to attach.

Price, each $1.50
Extra Key ..... .20

Switches

CONNECTICUT MAGNETO SWITCH

Price, each $2.50
Extra Plug 15

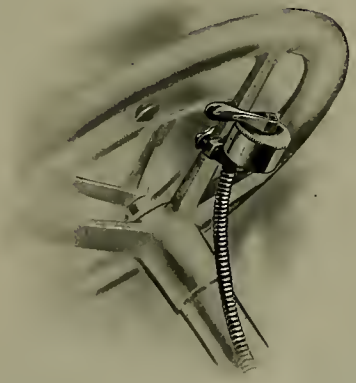
This switch is designed for use with a double ignition system when a vibrator coil and battery are used as one and a high tension magneto as the other. It is so arranged that when the running plug in the top of the switch is removed it is impossible to start the engine, as the battery circuit is open and the magneto circuit closed.

PURITAN SWITCH

For Magneto and Battery.

Combines strength, compactness, accessibility, and perfect electrical contacts. It may be used for battery and magneto or two sets of battery.

Price $1.00



CONNECTICUT STEERING WHEEL SWITCH

Price, either style.....each $5.00
Extra Handles .....each .35

CONNECTICUT STEERING WHEEL SWITCH

The Connecticut Steering Wheel Switch is designed to be attached to the steering wheel of an automobile or motor boat for controlling the ignition circuits. It is arranged so that it can be operated with the thumb or finger without removing the hand from the wheel.

Type C, Steering Wheel Switch, arranged for Battery and closed circuit Magneto or Magneto only.

Type O, Steering Wheel Switch, arranged for Battery and open circuit Magneto and also can be used with two sets of Battery where no Magneto is used, or one set of Battery only, or open circuit Magneto only.

PITTSFIELD MAGNETO SWITCH

For Magneto and Battery.

Price, each..$2.00
Extra Key.. .10
Extra Lever. .30

EXTRA SWITCH PLUGS AND KEYS

	Each
Splitdorf Regular Switch Plug	$0.10
Splitdorf Enclosed Switch Key	.20
Couch Switch Lever	.30
National Switch Lever	.20
Connecticut Switch Lever	.15
Connecticut Switch Plug	.15
Connecticut Magneto Switch Plug	.15
Remy Magneto Switch Key	.35

	Each
Pittsfield Regular Switch Lever	$0.30
Pittsfield Magneto Switch Key	.20
J. & B. Switch Plug	.15
Pfanstiehl Switch Key	.15
Kingston Switch Plug	.20
Heinze Switch Key	.20
Dow Switch Plug	.20
O. K. Switch Plug	.20

Timers

PRICE LIST OF LACOSTE COMMUTATORS

Special

Special

2 Cyl., Self-contained	$4.75
4 Cyl., Self-contained	5.25
6 Cyl., Self-contained	5.75
2 Cyl., Plain	4.25
4 Cyl., Plain	4.75
6 Cyl., Plain	5.25

Standard

2 Cyl., Self-contained	$4.25
4 Cyl., Self-contained	4.75
6 Cyl., Self-contained	5.25
2 Cyl., Plain	3.75
4 Cyl., Plain	4.25
6 Cyl., Plain	4.75

Standard

Note Carefully in Ordering

That the word SPECIAL means a Lacoste Commutator complete, with Split Contacts and Hard Rubber Terminals.

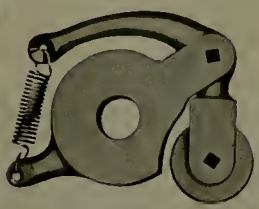
The word STANDARD means a Lacoste Commutator complete, with Threaded Contacts and Hexagon Binding Nuts.

There is No Other Difference.

The new Lacoste Timer has many improvements over the previous ones. Its special features are: Lacoste patent insulated terminal, ground terminal, set screw holding interior fitting, extra long phosphor bronze bearing, oiler, timing screw and steel sleeve.

Price List of Parts

No. 1



No. 3

No. 2

No. 4

No. 5

No. 6

No. 7

No. 8

No. 9

No. 10

No. 11

No. 12

No. 13

No. 14

No. 15

No.		
1.	Fibre, complete with split or threaded contacts, 2 cyl.	$1.50
1.	Fibre, complete with split or threaded contacts, 4 cyl.	2.00
1.	Fibre, complete with split or threaded contacts, 6 cyl.	2.50
1A.	Fibre, Ring only, 2 cyl...	.70
1A.	Fibre, Ring only, 4 cyl...	.80
1A.	Fibre, Ring only, 6 cyl...	.90
2.	Cover with Ground Terminal	.60
3.	Interior Fitting, complete	1.50
4.	Roller Arm, complete with Roller	.75
5.	Split Contact Shoe	.25
6	Threaded Contact Shoe...	.25
7.	Regular Ground Terminal.	.25
8.	Long Screw for Cover...	.10
9.	Spring for Roller Arm...	.10
10.	Wing Nut	.10
11.	Roller Pivot	.10
12.	Short Screw for Fibre Ring	.10
13.	Roller	.25
14.	Fibre Bushing	.10
15.	Hexagon Nut	.10

The illustrating and pricing of all the parts of the Genuine Lacoste Commutators is something new, and is done for the convenience of our customers.

When ordering parts, specify if for 2, 4 or 6 Cylinder.

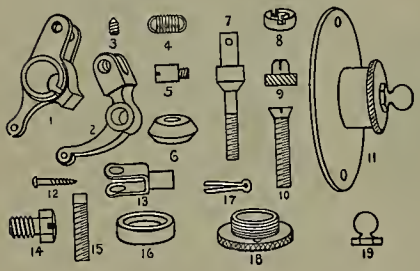
Timers

CONNECTICUT TIMER

The Connecticut Timer is in dust-proof casing, the shaft carrying the contact wheel holder is ball bearing and adjustable from the outside; where connections are held in cupped washers. Contact plugs are made of hardened tool steel and accurately spaced by micrometer index; and every detail of its construction is carried out to perfection. It is worthy of the name "Connecticut," which stands for the best in the ignition line.

1-cylinder	$7.00	4-cylinder	$8.50
2-cylinder	7.50	6-cylinder	9.50

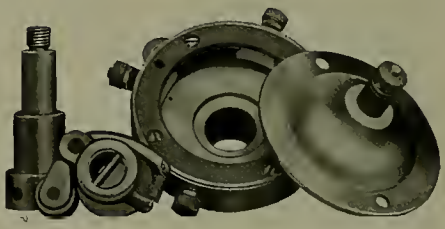
CONNECTICUT TIMER PARTS



	Price Each
No. 1 Carrier Arm Hub	$0.25
No. 2 Carrier Arm	.25
No. 3 Lock Screw for Adjusting Cap	.03
No. 4 Carrier Arm Spring	.05
No. 5 Contact Wheel and Carrier Arm Stud	.10
No. 6 Contact Wheel Hardened and Ground	.25
No. 7 Advance Lever Stud	.20
No. 8 Cupped Washer for Binding Post	.08
No. 9 Binding Post or Cover Knurled Nut	.08
No. 10 Timer Cover Screw	.02
No. 11 Timer Cover Complete with Bearing	.75
No. 12 Primary Terminal Screw	.01
No. 13 Primary Terminal	.10
No. 14 Hub Set Screw	.08
No. 15 Adjusting Cap Stud	.08
No. 16 Self Contained Ball Bearing	.25
No. 17 Cotter Pin for Advance Stud	.01
No. 18 Adjusting Cap	.20
No. 19 Terminal Binding Post	.06

CONNECTICUT TIMER

Showing How Primary Terminals are Attached



TRIO TIMER

The best that can be made for the price, and guaranteed to be in perfect condition and will replace any that are defective in material or workmanship.

There are no quick acting springs to require adjustment or replacement, the only spring being that which connects up the roller yoke.

The roller is of ample width to insure a perfect contact, and is reversible to suit the direction of the motor.

2-cylinder Motor	$4.00
4-cylinder Motor	4.50
1-cylinder Marine	4.50
2-cylinder Marine	4.50

Note: When ordering Timers give size of shaft. When ordering Timer parts give year, make of timer.

Timers

Rubber Insulation Prices

1 Cyl.....	$1.50
2 Cyl.....	1.75
3 Cyl.....	2.00
4 Cyl.....	2.25
5 Cyl.....	2.50

Metal Base, with Cups

Price, $2.50

Center Piece, new kind, with Upper Cone

Price, $2.50

Tool-steel Contact, new style, complete

Price, 50c.

Contact, Male

Price, 15c.

Cover, Copper or Aluminum

Price, 25c.

Plunger of Sheffield steel, hardened and ground

Price, 30c.

Spring

Price, 8c.

Drilled Hardened Set Screw

Price, 10c.

Round Head Brass

Price, 5c.

Set Screw, small hardened

Price, 5c.

Double Threaded Screw

Price, 5c

Handnut

Price, 10c.

Collar with Set Screw

Price, 40c.

Upper Steel Cone Hardened

Price, 35c.

Lower Steel Cone

Price, 35c.

Ball Retainer with English Balls

Price, 50c.

Adjusting Spring

Price, 20c.

Split Tapered Nut

Price, 5c.

Round Head Screw

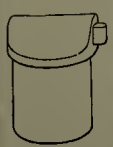
Price, 5c.

Tool-steel Contact, old style, complete, Style 1905

Price, 75c.

Tool-steel Contact, Style 1908

Price, 50c.



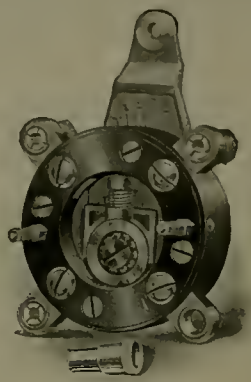
Bronze Center, Style 1905

Price, $2.50

Bronze Center, threaded, Style 1905

Price, $2.35

1908 AND 1909 MODEL HERZ TIMER PARTS



1910 HERZ TIMER—ROLLER TYPE—WITH DOUBLE BALL BEARINGS

PRICE

1 Cylinder...**$6.50** 4 Cylinder...**$ 8.00**
2 Cylinder... **7.00** 6 Cylinder... **10.00**

The Revolving Center has a steel sleeve with two hardened steel cones, revolving between the two before-mentioned steel cups, fastened in the base and running on two strings of imported English balls, contained in ball-retainers.

The **Revolving Center** is therefore held between **two** ball-bearings.

The workmanship is of the **Herz Standard**—the best obtainable from first-class men by the finest machine tools through modern shop practice.

Points of Superiority:

Double ball-bearing for the revolving part.
Largs roller running on steel balls.
Small outside dimensions (diam., 2⅜).
Spring connections throughout.

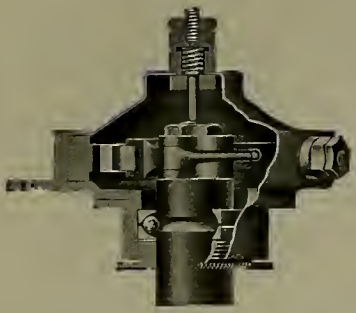
This tried-out device has been placed on the market after long trials under the most adverse conditions, and we can safely recommend the same.

List of Parts

Base, No. 1, with Cups	$2.50
Insulation with contacts:	
1 Cylinder	2.25
2 Cylinders	2.75
3 Cylinders	3.25
4 Cylinders	3.75
6 Cylinders	4.75
Centerpiece (2)	2.50
Slide (3)	.75
Roller (4)	.90
Screws (5)	.10
Steel Cup (7)	.35
Retainer (8), Loaded	.50
Tension Spring (9)	.20
Collar (10)	.40
Spring (11)	.15
Set Screw (12)	.10

Order parts by number and year model.

Timers

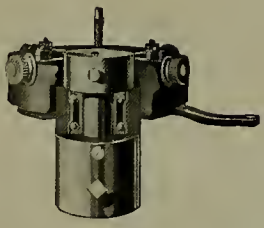


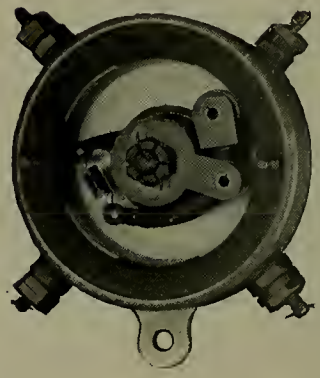
THE LEAVITT
IMPROVED WIPE CONTACT TIMER

This Timer has been improved upon by adding a supplementary ground terminal and an adjustable ball-bearing in place of the plain bearing. This eliminates two principal faults, poor ground and wobbling after running a short time, both of which will cause skipping when running at high speed. The above faults are usually ascribed to the plugs, coils or carburetor.

List Prices

For one-cylinder motors	$7.00
For two-cylinder motors	7.50
For three-cylinder motors	8.00
For four-cylinder motors	8.50
For six-cylinder motors	9.50





SPLITDORF TIMERS

BALL-BEARING WIPE
CONTACT TIMER

This type of Timer is made up in both the ball-bearing and regular bearing and is regularly fitted with a half-inch bushing which is reamed to fit a half-inch shaft. We can, however, furnish this type of Timer with bushing drilled to fit any size shaft.

Prices

One Cylinder	$ 8.50
Two "	9.00
Three "	9.50
Four "	10.00
Six "	13.00

Special bushings extra.

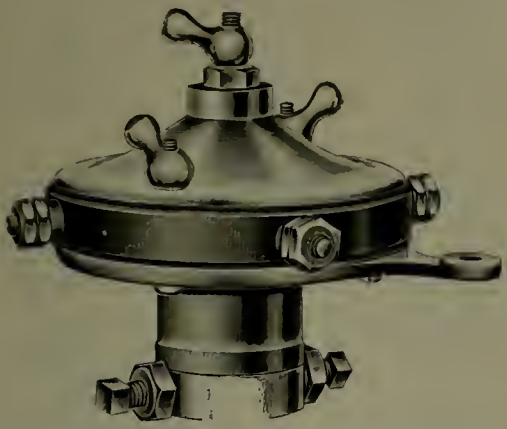
BALL-BEARING ROLLER
CONTACT TIMER

This type of Timer is used extensively on high-speed engines and gives very satisfactory service. It is made up with ball bearings only. It is regular fitted with one-half inch bushing and is made to operate from one to six cylinders.

Prices

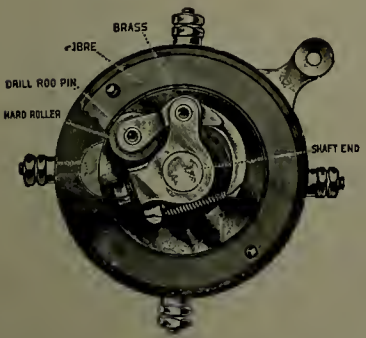
One cylinder	$10.00
Two "	11.00
Three "	12.00
Four "	13.00
Six "	15.00

Timers



THE MAXIMUS TIMER
MAXIMUS TIMER—PLAIN BEARING

This is the well known Maximus Timer with plain bearing, extra long to offset wear, hardened roller, fibre ring, metal cover and base, and gauze insulated brush that follows the roller, keeping the contact blocks free from dirt.



MAXIMUS PLAIN BEARING TIMER

Price List

1-cyl. Maximus Plain Bearing	$ 7.00
2-cyl. Maximus Plain Bearing	7.50
4-cyl. Maximus Plain Bearing	8.00
6-cyl. Maximus Plain Bearing	10.00
2-cyl. Buick Type Plain Bearing	7.50

THE MAXIMUS TIMER

The self-cleaning and ground contact features of this Timer, together with several minor points in its construction, taken in conjunction with its superior material, workmanship and finish, place it in a class by itself. Adopted by several of the leading automobile and engine builders. To overcome the wobbling motion this Timer is equipped with an exceptionally long bearing in the body and also a bearing in the cover by extending shaft through the trolley parts and pressing a brass bushing into the cover.

MAXIMUS MODEL 10
ROLLER BEARING

1 cylinder	$7.00
2 cylinder	7.50
4 cylinder	8.00
2 cylinder, fit Buick	7.50

MAXIMUS TIMER PARTS

Contact Blocks	$ .25
Plunger or Roller	.30
Contact Spring	.15
Center Complete	1.50
Cover Nut	.15

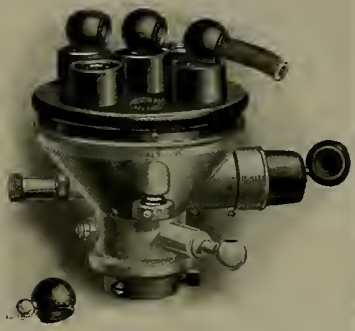
Maximus Timers made specially for 2-cylinder Buick cars.

Correspond with us regarding any Timers not listed in this Catalog.

MILWAUKEE TIMER

2-cylinder	$5.50
2-cylinder, fit Buick car	6.00
4-cylinder	6.50

Distributors



HERZ DISTRIBUTOR

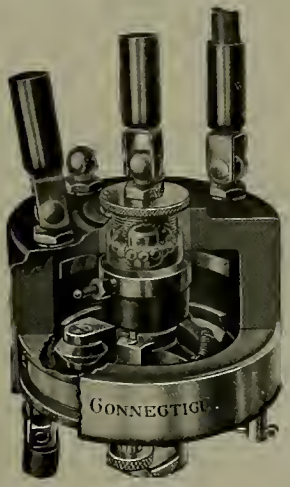
Price

2 Cylinder, each.....$16.00
4 Cylinder, each..... 18.00
6 Cylinder, each..... 20.00

This small, elaborately-made instrument will do away with the big, cumbersome multiple coil and **with one good single coil gives the most perfect, accurately-timed and permanently-reliable ignition outfit.**

One Coil for All Cylinders

The Herz Distributor Compact embodies the latest scientific improvements in its construction, and is built so as to occupy the **smallest possible space,** still consistent with absolute reliability and efficiency.



CONNECTICUT DISTRIBUTOR

Metal Base with Steel Cups
Price, $3.00

Rubber Cover Prices
3 Cyl.....$4.00
4 Cyl..... 4.50
6 Cyl..... 5.00

Steel Sleeve, Drilled and Milled
Price, $2.00

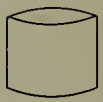
Tool-steel Cam Prices
2 Cyl.....$1.00
3 Cyl..... 1.25
4 Cyl..... 1.75
6 Cyl..... 2.00
8 Cyl..... 2.25

Ball Connection
Price, 85c.

Spring Nut
Price, 50c.

Rubber Sleeve Threaded
Price, 40c.

Segment Steel Hardened
Price, 75c.



Rubber Cylinder Drilled and Threaded
Price, 75c.

Rubber Bushing
Price, 75c.

Spring Connection
Price, 50c.

Contact
Price, 20c.

Prim. Contact
Price, $1.25

Sec. Contact
Price, $1.35

Inside Prim. Contact
Price, $1.00

Advance Lever
Price, 50c.

A Dust-proof Distributor Section with Quick Detachable Terminals. Flexible Secondary Arm, Double Ball Bearings, V-Shaped Roller and Contact Blocks in the Timer Section.

This Distributor is composed of two principal parts, the primary and secondary, which are held together by two threaded studs with lock-nuts, and are therefore easily separated for cleaning purpose without removing the instrument. The primary section is made of aluminum, containing the ball-bearing shaft and the timing or contact-making device, which is essentially the same as in the well-known 1910 type Connecticut Timer.

Stock sizes are ½ and ⅝-inch shafts.

Other sizes can be furnished to order.

When ordering, be sure and state size of shaft and size of primary and secondary wire to be used in connecting it up.

	Price
2 Cylinder	$16.00
3 Cylinder	16.50
4 Cylinder	17.00
6 Cylinder	18.50

Spark Plugs

BOSCH MAGNETO PLUGS

The most suitable plug for Bosch Arc Light Ignition is the specially designed **New Bosch Spark Plug.**

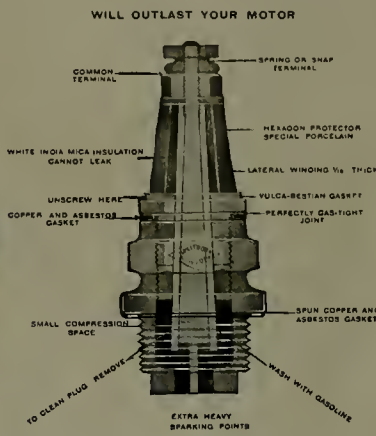
This new plug is distinguished for its very simple construction, consequently reducing any possible faults, and it is also noted for its extremely low price.

Price

½-inch, ⅞-inch and metric, each $1.50

BOSCH REGULAR

BOSCH SPECIAL



SPLITDORF MAGNETO PLUG

Will withstand the combined heat of the magneto spark and natural heat of the cylinder.

½-inch $1.00
⅞-inch and metric..... 1.25

MOTORCYCLE PLUG

Indian $1.25
Regular 1.00

A. V. MAGNETO PLUG

A powerful French plug, used on foreign and American cars. Standard equipment for Packard and Peerless cars.

Metric only.....$2.00

POGNON IMPORTED PLUG

Used on high-grade cars in Europe and America. Porcelain. Consists of three pieces. Very durable.

Metric only.....$2.00

FLASHLIGHT PLUG

The central electrode is tipped with pure platinum, which prevents sooting, corroding and carbonizing.

½-in., metric or ⅞-in..$1.50
Porcelain ..... .50

Spark Plugs

C. & L. Plug

C. & L. PORCELAIN PLUG

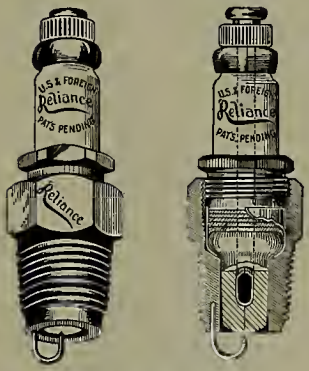
C. & L. Porcelain Plugs are simple in construction, easy to repair or replace porcelains, thoroughly mechanical, and have proven to be the most satisfactory type of porcelain plugs on the market. All parts are interchangeable. Nothing to get out of order.

Half-inch thread, each.....$0.75

SOOT-PROOF PLUGS

½-inch, metric and ⅞-inch, each	$1.00
Magneto, each	1.00
Porcelain, assembled	.70
Porcelains only	.25

Soot-Proof Plug



RELIANCE PLUGS

Description

The insulated sparking point is a hair-like platinum wire entirely protected from corrosive action by being baked in and brought flush with the surface of the porcelain insulator.

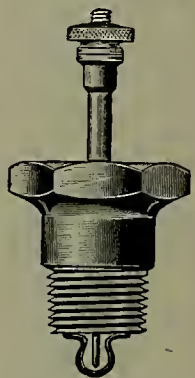
Absence of short-circuiting matter makes it possible to utilize the entire energy of the battery and coil to produce maximum heat in the spark, insuring regular and perfect ignition.

½-in., metric or ⅞-in., each $1.00
Extra Porcelains, each..... .50

THE EDISON DOUBLE SYSTEM SPARK PLUG

This Spark Plug is designed to meet the requirements of the motor enthusiast who desires to equip his automobile, motor boat or stationary engine with a dual system of ignition, but has provisions for only one spark plug in each cylinder of his motor.

½-in., metric or ⅞-in., each $2.00



ANDERSON GLASS PLUG

Constructed from pyro-electric glass welded to steel, making absolute insulation.

Sparks can be observed through the glass core.

½-in., ⅞-in. or metric.....$2.00

Plugs

Jewel Magneto Plug

Standard, ½-in., metric and ⅞-in., each.....$1.00
Magneto, ½-in., metric and ⅞-in., each..... 1.25
Motorcycle 1.00
Extra Cores ..... .50

JEWEL MICA SPARK PLUG

This plug is well and favorably known. Comes in mica only with double terminals, for use with either binding-post nut or clip terminals.

NEVERSKIP SPARK PLUG

Double mica insulation, full brass instead of cast iron. Takes apart in an instant.

Neverskip Spark Plug

½-in., metric and ⅞-in..$1.00
Extra Cores ..... .75

SOOTLESS PLUG

A well-made and popular mica plug. Has been on the market for several years, is easily cleaned and is especially recommended for 2-cycle engines.

½-in., ⅞ in., or metric..$1.50

NEVER-MISS PLUG
With Porcelain Core

½-in., metric, ⅞-in.....$1.00
Magneto 1.50

With Mica Core

½-in., metric, ⅞-in.....$1.25
Porcelain Cores ..... .40

NEVER-MISS PLUG

The Never-Miss Plug has a special selected porcelain core; the electrode and cup-shaped caps are made from one-piece steel. This plug has given splendid service for the last three years and is made to stand the racket from either high or low compression engines.

NEVER-MISS CADILLAC MICA CORE

CADILLAC CORES

Used on the 1905 and 1906 Single-Cylinder Cadillac Cars. Price, each $0.50

Spark Plugs

Rajah Plug

RAJAH

The 1910 Rajah Plug is the same as last year, there being no room for improvement.

The New Clip Terminal does away entirely with the necessity for either thumb-screw, nut or other device for attaching or securing wire or cable to Spark Plug.

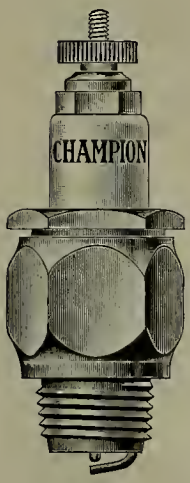
½-in., ⅞-in. or metric, each.....$1.25
Terminals, each ..... .10
Porcelains, each ..... .50
Gaskets, per dozen..... .20

HAGSTROM PLUG

The latest creation in spark plugs. The main feature is the porcelain guard or disk, so constructed that the plug will not short circuit from excessive use of oil.

½-in., metric and ⅞-in.....$1.50

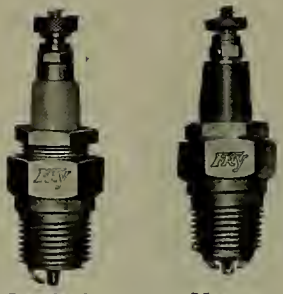
Hagstrom Plug



CHAMPION PLUG

This plug is so constructed that gas may pass on either side of the porcelain, hence it does not carbonize and short circuit.

½-in., metric, ⅞-in., each...$1.00
Porcelains, complete ..... .50



Standard Magneto

FRY SPARK PLUG

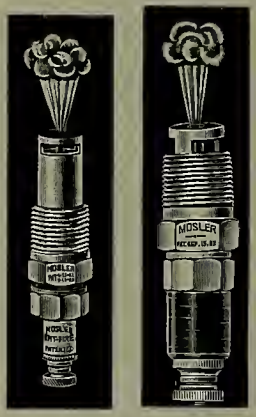
This plug is constructed of high-grade material only. First quality porcelain is used for the core, which will withstand great heat.

Half-inch thread $0.75
Metric ..... .75
Magneto 1.00

STA-RITE PLUG

Made in several styles.

No. 24. Mica, ½-in.....$1.25
No. 26. Mica, metric 1.25
No. 4. Porcelain, ½-in..... 1.25
No. 6. Porcelain, metric 1.25
No. 55. Porcelain, ½-in. 1.00
No. 4a. Magneto 1.50



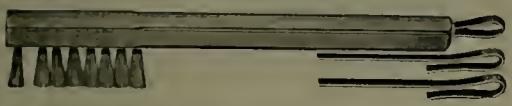
Extra Long Standard

SPIT-FIRE PLUG

The Spit-Fire is a popular plug. The porcelain is highly glazed. Base of plug acts as a condenser, producing a hot spark.

½-in. or metric $0.75
Magneto plug ..1.00
Extra porcelains only ..... .25
Extra porcelains assembled ... .50

Spark Plug Sundries



SPARK PLUG BRUSH

This is the correct brush to use for cleaning spark plugs; has a wire scraper in handle, the body of brush has wire bristles and the end hair tuft.

Price, each $0.25

SPARK PLUG CASE

A very handy and sensible way of carrying plugs. Made of solid oak and provides for four plugs; also convenient place for carrying extra tire valve cores.

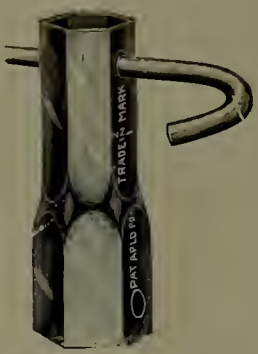
Price, each $0.50

SPARK PLUG WRENCH

A very handy tool for removing spark plugs. Takes up very little room. Made to fit all standard plugs.

Single socket on one end ..$0.50

Double, with socket on both ends $0.75



Spark Plug Wrench

SPARK PLUG GASKETS

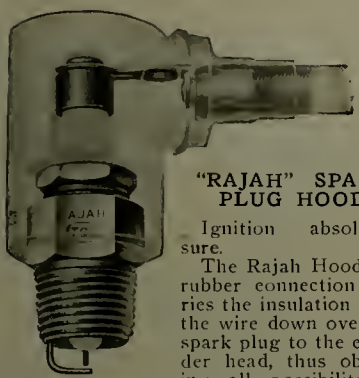
Copper washers lined with asbestos, to be used in connection with spark plugs.

Metric, per dozen.....$0.20
½-inch, per dozen..... .20
⅞-inch, per dozen..... .20
For porcelain cores..... .20

SPARK PLUG BUSHING

Threaded with Metric thread on the inside, and ½-inch standard thread on the outside, making it possible to use a metric plug on machine tapped out for ½-inch standard.

Price $0.15



"RAJAH" SPARK PLUG HOOD

Ignition absolutely sure.

The Rajah Hood and rubber connection carries the insulation from the wire down over the spark plug to the cylinder head, thus obviating all possibility of short circuiting.

Price of Hood, each $0.60

PLUG CASE

Made of leatherette, and provides for six plugs and two porcelains. Patent snap cover, very durable and compact.

Price, each $0.40

In our selection of Spark Plugs we endeavor at all times to carry the strictly up-to-date styles, but owing to the many changes occurring during a season, we sometimes have call for ignition articles that are not shown in this Catalog. We would be pleased to have you correspond with us for goods not catalogued.

Cable

PACKARD ENAMELED "PRIMARY" CABLE

This cable has been somewhat improved by the use of better rubber compound; also by applying this compound in a manner acknowledged by experts to be considerably superior to older methods. The rubber insulation is protected by the covering composed of fabrics saturated with flexible enamel, carefully baked on in a steam-heated oven. This enamel is insoluble in hot oils, grease and moisture. This is the identical covering that has given such universal satisfaction.

Price, per foot **10c**

PACKARD HIGH TENSION "MAGNETO" CABLE

A medium sized cable designed especially for Magneto use. Stand a breakdown far in excess of requirements. A. D. 3-16 inch.

Price, per foot **20c**

PACKARD ENAMELED HIGH-TENSION CABLE

This cable has been improved by the use of better rubber compositions which are applied by superior processes identical to that used for low-tension cable. These improvements have materially increased the break-down test. The rubber is protected by an exterior covering identical with that of the low-tension cable.

Price, per foot **20c**

PACKARD DUPLEX AND 3, 4 AND 6 STRAND CABLE

This cable is composed of strands of regular low-tension cable with single braids of different color. This Cable is stranded to make it flexible and has a twine in the center and one between each strand. The finished cable is round in form.

	Price per ft.
Packard Two Strand or Low Tension Primary Cable	$0.22
Packard Three Strand or Low Tension Primary Cable	.33
Packard Four Strand or Low Tension Primary Cable	.44
Packard Five Strand or Low Tension Primary Cable	.55
Packard Six Strand or Low Tension Primary Cable	.66

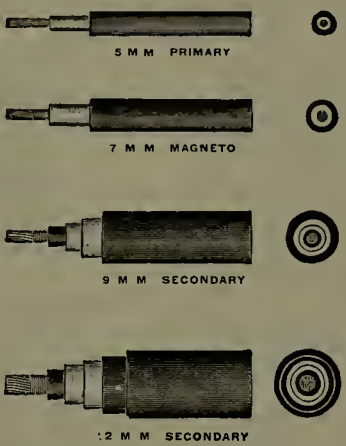
Ignition Cable, Wire Cable, Chain

STANDARD UNDERGROUND CABLE

Standard Primary, price per foot $0.06
Standard Secondary, price per foot ..... .15
Standard Magneto, price per foot ..... .15

PARA FLEX IGNITION CABLE

This is the very best imported French cable. Is made of several layers of para gum, and owing to construction is very flexible.



It also has a new hard transparent finish which does not crack, but makes the cable impervious to oil, gasolene, water and heat.

FRENCH RUBBER CABLE

5 mm., Primary, per foot $0.10
7 mm., Magneto, per foot ..... .15
9 mm., Secondary, per foot ..... .20
12 mm., Secondary, per foot ..... .25

BOSCH MAGNETO CABLE

Bosch Magneto Cable is specially adapted for use in connection with the Bosch Magneto, but it may be used with any magneto where a high-priced cable is essential.

Price, per foot $0.20

WIRE CABLE

Used for muffler cut-outs, brakes and levers of various descriptions. Made of high-grade crucible steel.

Sizes 1/8 and 3/16 ..... $0.05
Sizes 1/4 and 1/8 ..... .10

CHAIN CABLE

For use on foot pedals for cut-out.

Price, per ft. $0.05

Battery Connections

SECURO BATTERY CONNECTION

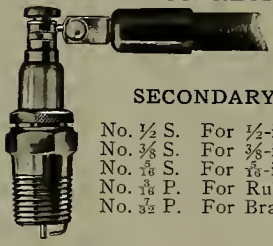
STANDARD BATTERY CONNECTIONS

Prices Battery Connections

Name	Box	Doz.	Per C.
Bull Dog (10 in box)	$0.60	$0.72	$6.00
Securo	.....	.35	3.00
Standard	.....	.25	2.00

BULL DOG BATTERY CONNECTION

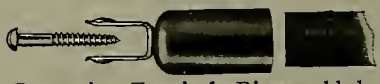
CONNECTICUT QUICK DETACHABLE TERMINALS



SECONDARY TERMINALS

No. ½ S.	For ½-in. Secondary Wire.
No. ⅜ S.	For ⅜-in. Secondary Wire.
No. 5/16 S.	For 5/16-in. Secondary Wire.
No. 3/16 P.	For Rubber Primary Wire.
No. 3/32 P.	For Braided Primary Wire.

Connecticut Terminal Detached from Plug



Connecticut Terminal—Disassembled

HERZ DETACHABLE TERMINAL

Rajah Coil Terminal

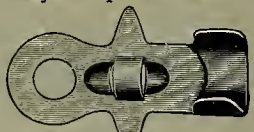
No. 1 Battery Terminal

No. 2 Primary Terminal

PRICE LIST TERMINALS

Name	Each	Doz.	Per 100
Conn. No. ½, ⅜ or 5/16 S...	$0.20	$2.40	
Conn. No. 3/16 or 3/32 P.	.15	1.80	
Rajah Clip, ⅜, ½, ⅝	.10	1.20	$7.50
Rajah Coil, ⅜, ½, ⅝	.10	1.20	7.50
Herz Detachable, ⅜, ½, ⅝	.15	1.50	
Sootproof Snap	.15	1.50	
No. 1 Battery Connection ..	....	.10	.80
No. 2 Primary Wire	....	.15	.90
No. 3 Magneto Wire	....	.20	1.50
No. 4 Secondary Wire ...	....	.25	2.00

Rajah Clip Terminal



No. 3 Magneto Wire Terminal
No. 4 Secondary Wire Terminal

Soot-Proof Snap Terminal

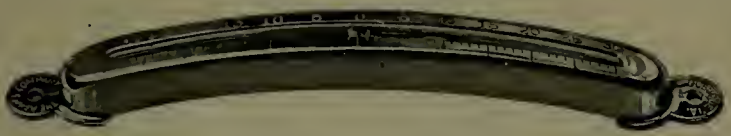
Rear Sight Mirrors—Gradometers—Road Books

French Gradometer

Price, each $2.75

FRENCH GRADOMETER

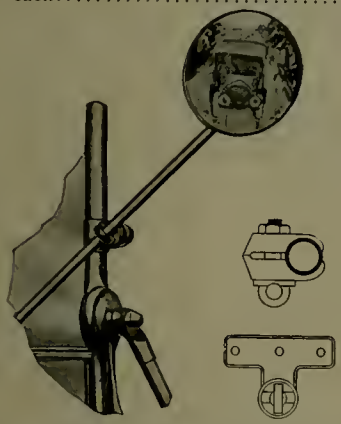
It consists of a curved glass tube filled with spirits, and small steel ball, leaving a small bubble, as in a spirit level tube. The ball being very sensitive enables one to ascertain the grade almost instantly.



AMERICAN GRADOMETER

This is similar to the French make, but does not contain steel ball.

Price, each $2.00



REAR SIGHT MIRROR

Enables the driver to "see behind." Made of highly finished brass with plate mirror. Flat or convex.

Style	Convex	Flat
With arm. Price, each	$4.50	$3.50
Without arm. Price, each	3.50	2.50

When ordering specify how you wish to attach.

THE HANCOCK ROAD BOOK

Very Concise and Accurate.

California—Cloth bound $1.00
California—Leather bound $1.50

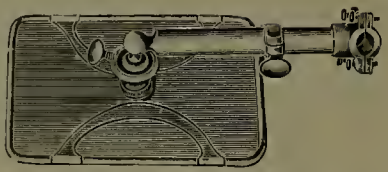
THE SAN FRANCISCO MOTOR CLUB TOUR BOOK

Covers the State of California fully and complete in every detail.

Price $1.50

ROAD BOOK OF OREGON AND WASHINGTON

Furnished by Our Seattle Store



REAR SIGHT MIRROR

This Mirror allows the chauffeur to see at a glance the movements of all moving vehicles behind him, allowing him to turn, back and reverse without jeopardizing the occupants of the machine. Has a ball and socket joint, enabling it to be moved in any position. The mirror is slightly concave and gives an extraordinarily wide range of vision behind.

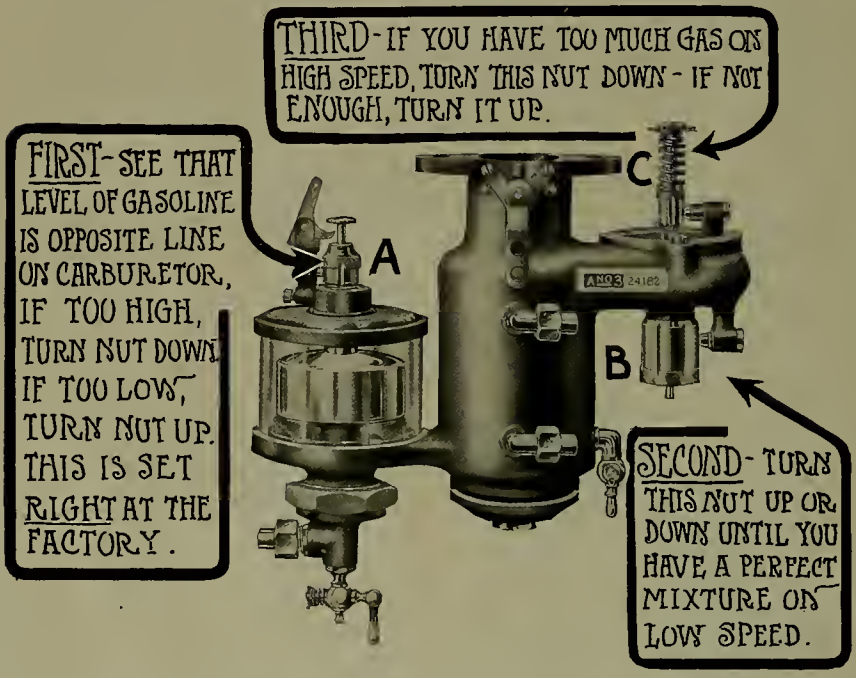
Price $6.00

ROAD MAPS

Thorpe's Southern California. Shows photos of turns, hotels and other points of interest.

Thorpe's Southern California $1.50
Thorpe's State Map 2.00
Automobile Club Map of State 1.50
Henderson, Southern California 1.00

Stromberg Carburetor



TYPE A WATER-JACKETED STROMBERG CARBURETOR

The cut shown above gives positive and concise instructions regarding the adjustment of the type A carburetor. This is the water-jacketed type with single nozzle.

A. Install the carburetor so that the float chamber is towards the front of the car if possible. See that the level of the gasoline in the float chamber is about even with the line drawn on the body of the carburetor. To lower level turn nut A down—to raise level turn it up. This adjustment is set at the factory and usually requires no further adjusting.

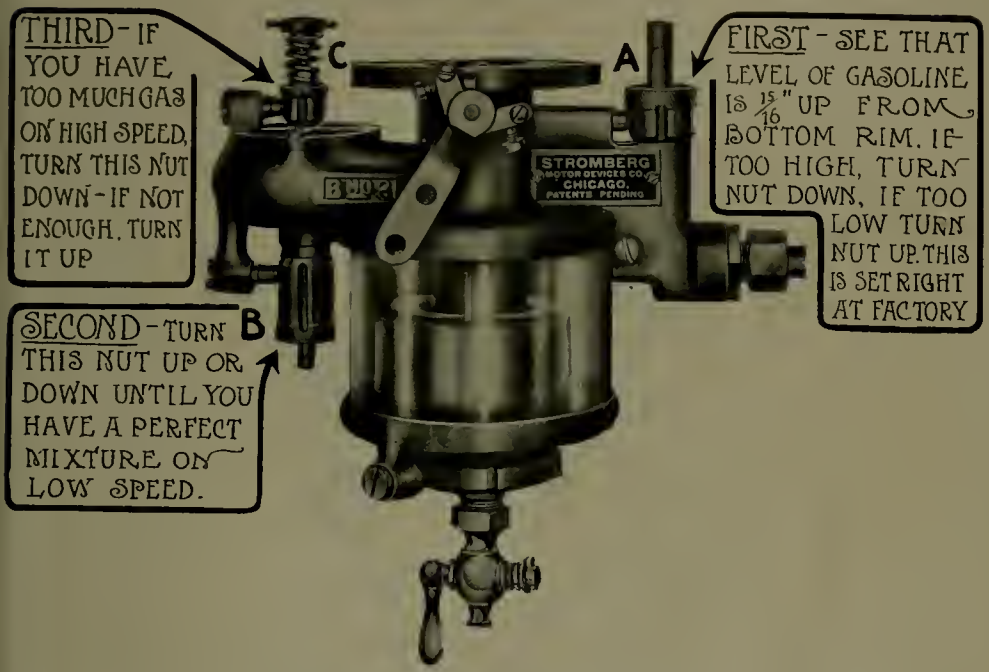
B. Turn up the adjusting nut B until the spring controlled by same, which is the low speed spring, seats the valve lightly. See that the high speed spring is free and has plenty of play. Start the motor and turn nut B up or down until the motor idles properly. This is the low speed adjustment.

C. Advance the spark and open the throttle, if motor back-fires through carburetor turn nut C up until back-firing ceases—if mixture is too rich turn it down. The spring controlled by nut C should always have at least 1-32 of an inch play while the motor is at rest. To start motor when cold, raise level of gasoline in float chamber by operating priming lever until gasoline overflows into priming cup on bottom of carburetor. If car is laid up during cold weather be sure to drain the water from water-jacket of carburetor by opening drain cock in the side.

HOW TO FIND PROPER NOZZLE SIZE

If after adjusting the nut B until the mixture on slow speed is correct, you find that the valve is off the seat while the motor is at rest, it indicates that the nozzle is too large. If you find that nut C has to be turned up so far that the high speed spring is in contact with the small nut on the top of the air valve stem when the motor is at rest, in order to get proper mixture on high speed, the nozzle is too small. To remove the nozzle take out the plug in the bottom of the main body of the carburetor, insert a screw-driver and take out the nozzle. Nozzles are numbered according to drill gauge sizes. For instance: Number 59 nozzle is larger than Number 60 .

Stromberg Carburetor



TYPE B. WITHOUT WATER JACKET

The cut shown above gives positive and concise instructions regarding the adjustment of the type B carburetor. This is the concentric type with single nozzle, non-water jacketed.

A. See that the level of the gasoline in the float chamber is about 7/8 of an inch above the bottom rim of the float chamber which holds the glass. To lower level turn nut A down —to raise level turn it up. This adjustment is set at the factory and usually requires no further adjusting.

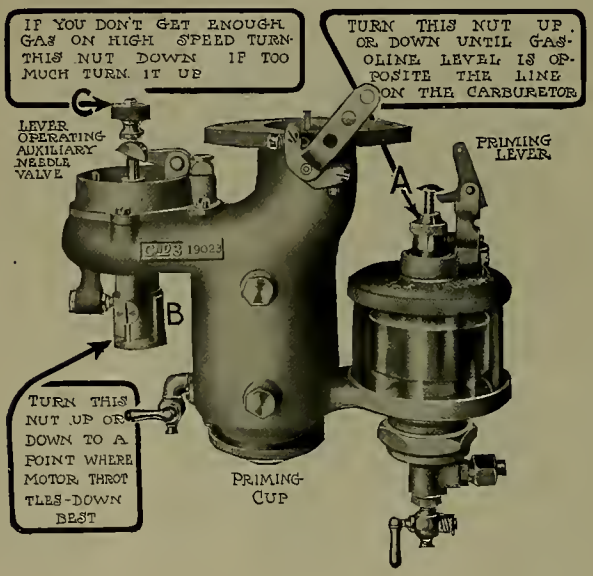
B. Turn up the adjusting nut B until the spring controlled by same, which is the low speed spring, seats the valve lightly. See that the high speed spring is free and has plenty of play. Start the motor and turn nut B up or down until the motor idles properly. This is the low speed adjustment.

C. Advance the spark and open the throttle, and if the motor back-fires through the carburetor turn nut C up until back-firing ceases—if the mixture is too rich turn it down. This is the high-speed adjustment. The spring controlled by nut C should always have at least 1-32 of an inch play while the motor is at rest. To start motor when cold, raise gasoline level in float chamber by operating priming lever until gasoline overflows into priming cup at bottom of carburetor.

How to Find Proper Nozzle Size

If after adjusting the nut B until the mixture on slow speed is correct, you find that the valve is off the seat while the motor is at rest, it indicates that the nozzle is too large. If you find that nut C has to be turned up so far that the high speed spring is in contact with the small nut on the top of the air valve stem when the motor is at rest, in order to get proper mixture on high speed, the nozzle is too small. To remove the nozzle take out the drain cock in the bottom of the carburetor and use a regular screw driver. Nozzles are numbered according to drill gauge sizes. For instance: Number 59 nozzle is larger than Number 60.

Stromberg Carburetor



TYPE C

Description of Type C Carburetor

This carburetor is a double jet type, having one jet in the venturi tube which is in service at all times, supplying enough gas for low and intermediate speeds and an auxiliary jet which is opened automatically by adjustable nut on top of air valve stem which operates lever and supplies additional gas for high speeds.

There are but three adjustments, which are A, B, and C.

A is adjusting nut on top of float chamber. B is adjusting nut on under side of auxiliary air valve, and C is adjusting nut on top of air valve stem.

How to Adjust

A. Turn adjusting nut A either up or down until gasoline in float chamber is about level with line on carburetor body. This, however, is done at the factory and usually requires no further adjusting.

B. Back off adjusting nut C until it clears lever 1-16 inch, then turn up adjusting nut B until air valve is seated firmly. Retard spark with throttle opened very little, start motor, and then turn nut B either up or down to the point where the motor throttles down best.

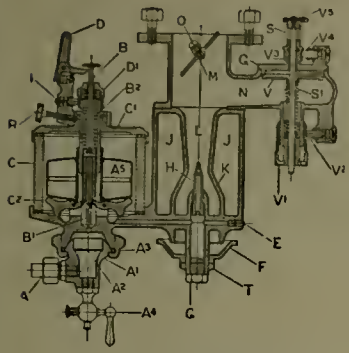
C. Advance spark and open throttle quickly. If motor fires back through carburetor, or is slow in speeding up, turn adjusting nut C down until back firing is stopped and you get the proper speed.

To start the motor when cold, raise gasoline level in float chamber by operating priming lever until it floods over into priming cup on bottom of carburetor.

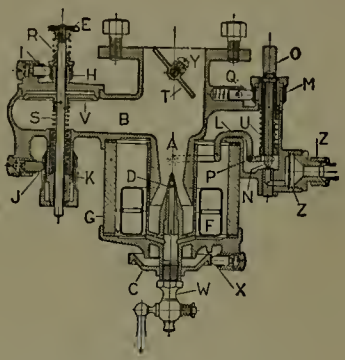
If car is laid up during cold weather be sure to drain the water from the water-jacket of the carburetor by opening the drain cock in the side.

By following these directions carefully you should have no trouble in getting perfect adjustments.

Stromberg Carburetors

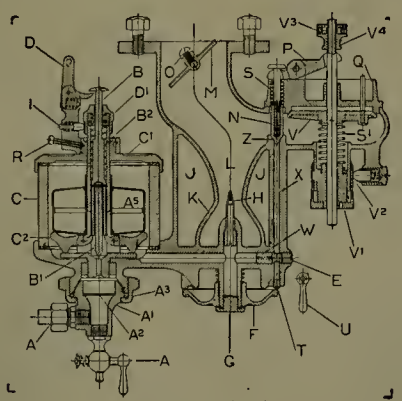


Type A Stromberg Sectional View



Type B Stromberg Sectional View

In addition to a full line of Carburetors we



carry a complete stock of parts and manifolds.

Type C Stromberg Sectional View

Price List

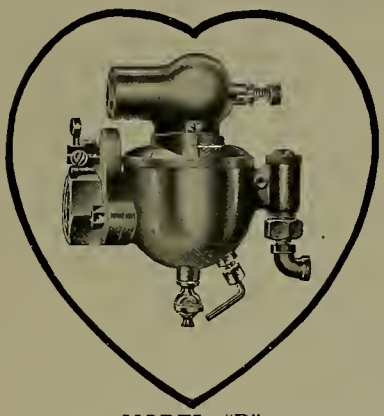
TYPE A		TYPE B	
No. 1—1 in.	$22.50	No. 1—½ in.	$14.00
No. 2—1¼ in.	25.00	No. 2—¾ in.	16.00
No. 3—1½ in.	30.00	No. 3— 1 in.	17.50
No. 4—1¾ in.	35.00	No. 4—1¼ in.	20.00
No. 5—2 in.	45.00	No. 5—1½ in.	25.00
No. 6—2½ in.	55.00	No. 6—1¾ in.	30.00

TYPE C

No. 2—1¼ in.	$30.00
No. 3—1½ in.	35.00
No. 4—1¾ in.	40.00
No. 5—2 in.	55.00
No. 6—2¼ in.	60.00
No. 7—2½ in.	65.00

Price list of parts and manifolds will be mailed upon application.

Schebler Carburetors



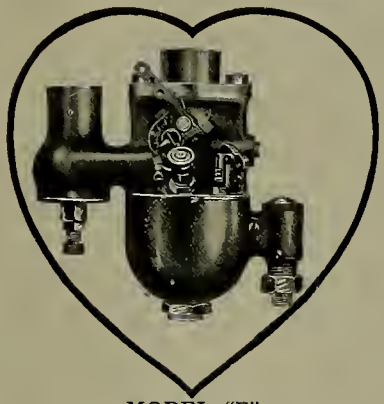
MODEL "D"

Model "D" is the standard carburetor. It has been improved with butterfly shutter in the air intake for facilitating easy starting, and a friction spring on air valve adjusting screw making it impossible to jar loose.

Model "D" is the best carburetor for marine work, and is made in five sizes from one to three inches.

Price List

1 inch	$10.00	1½ inch	$17.60
1¼ inch	11.00	2 inch	35.00
3 inch			$60.00



MODEL "F"

Used extensively on large 4 and 6 cyl. cars. Has Butterfly Throttle for the better distributing of the mixture; needle valve with two adjustments for high and low speeds; and water jackets. Fitted with shutter which is closed when cranking, forcing the engine to draw a rich mixture into the cylinders.

Price List

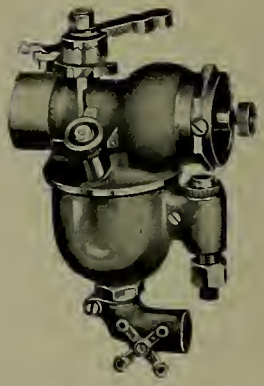
1 inch	$14.40
1¼ inch	16.00
1½ inch	20.00

MODEL "E"

Model "E," with one exception is similar in all respects to Model "D." The air for low speed, instead of entering through notch in compensating valve, passes up through the center of float chamber. This gives greater velocity to the air and assures a very thorough mixture of the gasoline and air.

Price List

½ inch	$10.40	1 inch	$13.60
¾ inch	12.00	1¼ inch	15.00
1½ inch			$24.00



MODEL "H"

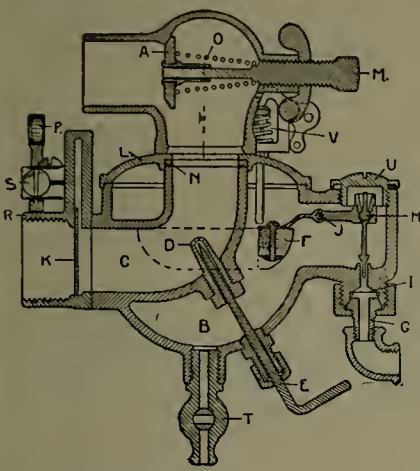
A new Schebler Model designed especially for Motorcycles and Buggy-mobiles. Extensively used on 4 cyl. Ford cars. The needle valve has two adjustments like Model "F" for high and low speeds. Made in two sizes only; ¾ in. principally for Motorcycles and 1 in. for the smaller type machines.

Price List

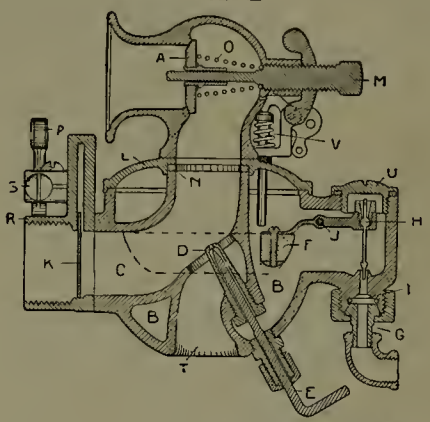
¾ inch	$12.00
1 inch	13.00

Schebler Carburetor Parts

MODEL "D"



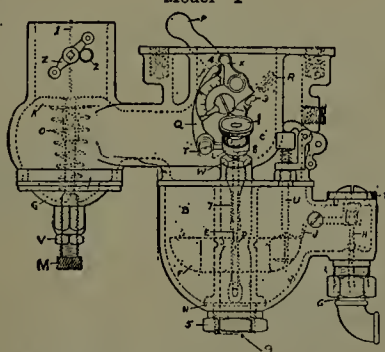
MODEL "E"



KEY TO MODELS "D" AND "E" CROSS-SECTIONS

A Compensating Air Valve.
B Float Chamber.
C Mixing Chamber.
D Spraying Nozzle.
E Needle Valve.
F Float.
G Reversible Union.
H Float Valve.
I Float Connection.
J Float Hinge.
K Throttle.
L Float Chamber Covers.
M Air Valve Adjusting Screw.
N Cork Gasket.
O Air Valve Spring.
P Throttle Lever.
R Pipe Connection.
S Throttle Stop.
T Fixed Air Opening (Model "E").
T Drain Cock (Model "D").
U Float Cap.
V Flushing Pin.

Model "F"



KEY TO MODEL "F" SPECIAL PARTS

I Needle Valve Ad. Screw.
J Float Lever.
L Needle Valve Retainer.
Q Needle Valve Lift Lever.
R Throttle Stop.
S Pivot Screw.
T Float Valve Cap.
U Flushing Pin.
V Lock Nut.
W Needle Valve Hex. Con.
X Spring Cam Casting.
Y Eccentric High Speed Adjustment.
Z Air Valve Shutter Lever.
1 Air Valve Butterfly Disc.
2 Spring.
3 Lock Screw.
4 Cam Spring.
5 Lock Nut for Bowl.
6 Air Valve Cap.
7 Needle Valve Retaining Spring.
8 Needle Valve Spring.
9 Constant Air Opening.

Schebler Carburetor Parts—Price List

Regular Parts for All Models

	Each
Compensating Air Valve (Models D, E)	$ .25
Spraying Nozzles (all Models)	.25
Needle Valve (all Models)	.25
Cork Float (all Models)	.50
Reversible Union (all Models)	.25
Float Valve (all Models)	.25
Float Hinge (all Models)	.25
Air Valve Adjusting Screw (Models D, E)	.25
Cork Gaskets	.15
Air Valve Spring (D, E and F)	.15
Drain Cock (D and E)	.50
Wing Nut (D and E)	.25
Float Valve Cap (all Models)	.50

Special Parts for Model "F"

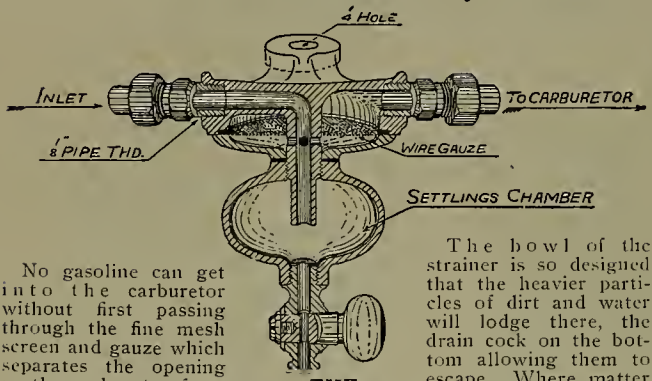
	Each
Needle Valve Adjusting Screw	$ .25
Needle Valve Retainer	.25
Needle Valve Lift Lever	.25
Lock Nut for Bowl	.25
Needle Valve Hexagonal Connection	.25
Spring Cam Casting	.50
Eccentric High-Speed Adjustment	.25
Butterfly Shutter Valve Complete	.50
Air Valve Adjusting Screw Lock Nut	.25
Air Valve Cap	1.00

Cork Floats for 2" Model "D" $2.00

Special Parts for Model "H"

Compensating Air Valve, complete (4 pieces)	$2.50
Low Speed Adjusting Screw	.25
Low Speed Lock Screw	.25
Lock Nut for Bowl	.25
Constant Air Opening Connection, complete with butterfly starting shutter	2.00
Spring Cam Casting (complete)	.50
Eccentric High Speed Adjustment	.25
Cam Spring	.15
Adjustable Throttle Lever Casting	$ .50
Throttle Valve Stem	.30
Throttle Valve Butterfly Disk	.25
Needle Valve Retainer	.25
Needle Valve Adjusting Screw	.25
Needle Valve Lift Lever	.25
Cam Roller	.15
Leather Friction Disk	.15
Friction Spring	.15

Gasoline Strainers, Hydrometers, Gauges

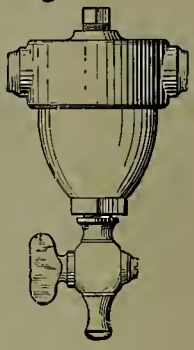


No gasoline can get into the carburetor without first passing through the fine mesh screen and gauze which separates the opening to the carburetor from the gasoline coming from the tank.

THE SCHEBLER STRAINER

The bowl of the strainer is so designed that the heavier particles of dirt and water will lodge there, the drain cock on the bottom allowing them to escape. Where matter has collected that will not drain through the cock, the bowl may be removed and thoroughly cleansed.

Furnished complete with ⅛ pipe conn. and unions.
Price, each $3.00



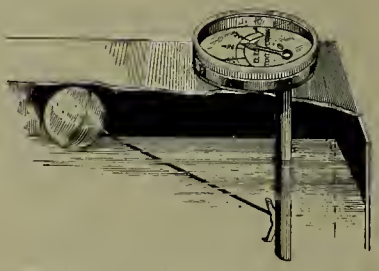
LEAVITT SEPARATOR

Keeps all dirt and water out of carburetor. Made of brass, ⅛ and ¼-inch.
Price, each $2.50

Gasoline Hydrometer

No. 2 GASOLINE HYDROMETER
Packed in round nickel case, 1 x 6. Improved Gasoline Hydrometer for automobile kits, combined with thermometer and correction scale for variations in temperature, complete with test jar.
Price, each $1.25

No. 4 GASOLINE HYDROMETER
Packed in round wood case, 1 x 4½. This instrument covers a range of Baume scale from 60 to 82 or 85 degrees.
Price, each $0.40



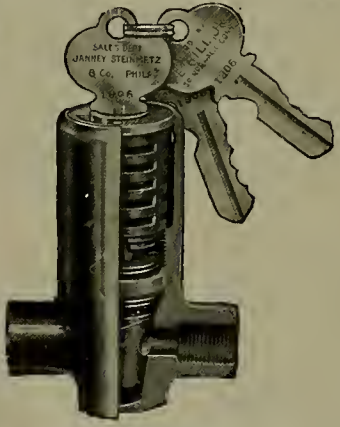
EUREKA GASOLINE GAUGE

Price $3.50

Indicates the amount of gasoline in tank. Accurate and easy to attach.

Directions for Attaching Gauge

Measure depth of tank, then insert float arm in spiral attachment on gauge to a point that the measurement from under side of dial to bottom part of float is the same measurement as tank. If rod on float is too long, cut it off to required length. Cut hole in top of gasoline tank 1⅞ inches in diameter. Cut hole in such position that float arm will not come in contact with side of tank or partition therein, then drop gauge in place and solder with soldering iron.



HILL GASOLINE LOCK VALVE

For locking gasoline feed line, to prevent theft. Genuine Yale lock.
Price, each $5.00

Hydrometer Nickel Case

Emergency Oil and Gasoline Tanks

Automobile Gasoline Tank Style "A"

SEAMLESS COLD-DRAWN STEEL TINNED AND TESTED TANKS

Length in Inches	Diameter in Inches: 6	7	8	9	10	12	14	16	18	20
12	$7.30	$7.40	$7.50	$7.60	$7.80	$8.10	$8.50			
15	7.40	7.50	7.60	7.70	7.90	8.20	10.00	$10.50		
18	7.50	7.60	7.70	7.80	8.00	8.50	10.50	12.00		
20	7.60	7.90	8.10	8.20	8.30	10.00	11.00	12.50		
24	8.00	8.60	8.90	9.50	10.00	12.00	13.50	14.50	$17.00	$19.50
28	8.80	9.90	10.20	10.30	11.00	13.00	14.00	15.50	19.00	22.00
30	9.90	10.30	11.00	10.70	12.00	14.00	15.00	16.00	20.50	24.00
36			11.75	13.00	14.00	15.50	16.00	18.00	24.00	28.00
42			13.00	13.50	14.50	16.00	17.50	19.50	27.00	33.50
45				14.00	15.00	17.00	18.00	20.50	29.00	36.00
48				15.50	16.00	17.50	20.00	22.00	31.00	38.00
54	Price				17.00	20.00	22.00	25.50	35.50	44.00
60	Per Tank					21.50	25.00	32.00	40.00	50.00

Add to the above prices for Filler Plug and Pipe Openings, **$1.40** net.

For Automobiles, ⅛" Pipe Connections.

These Tanks are guaranteed absolutely air tight and tested to 200 lbs. pressure.

Especially suitable for Motor Boats and Racing Cars.

Invaluable for long distance touring.

Can be installed at a very nominal expense. Special sizes made to order.

Diameter in Inches—Style "A" Tank

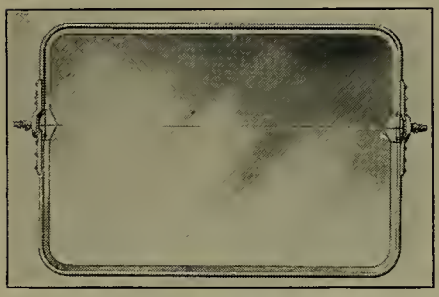
Length in In.—Style "A" Tank	14"	16"	18"	20"	24"
Splash Plates—Net	75c	85c	$1.00	$1.50	$2.25
60"	$25.00 — 40 gallons	$32.00 — 50 gallons	$41.00 — 66 gallons	$51.00 — 81 gallons	$64.00 — 117 gallons
72"	30.00 — 48 gallons	34.00 — 62 gallons	47.00 — 79 gallons	55.00 — 97 gallons	74.00 — 141 gallons
84"	33.00 — 56 gallons	37.00 — 73 gallons	53.00 — 92 gallons	67.00 — 114 gallons	88.00 — 164 gallons
96"	39.00 — 64 gallons	43.00 — 83 gallons	61.00 — 105 gallons	76.00 — 130 gallons	114.00 — 188 gallons
108"	43.00 — 70 gallons	50.00 — 94 gallons	71.00 — 118 gallons	88.00 — 146 gallons	134.00 — 211 gallons
120"	49.00 — 80 gallons	64.00 — 104 gallons	80.00 — 132 gallons	100.00 — 163 gallons	154.00 — 235 gallons

Add $1.40 Net for Filler Plug and Pipe Connections.

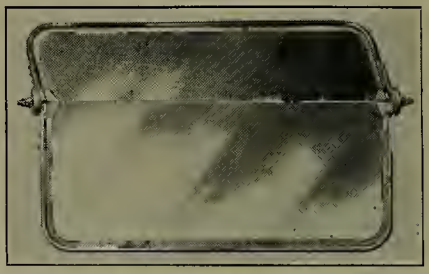
STOCK SIZES—FOR EMERGENCY ORDERS

6x12 = 1 gal. 6x18 = 1½ gals. 8x24 = 5 gals. 10x28 = 9 gals. 12x24 = 10 gals.
12x36 = 15 gals. 14x30 = 20 gals. 14x36 = 25 gals. 16x30 = 25 gals. 16x36 = 30 gals.

Champion Wind Shields



Upright Position



Price $40 Zig Zag

No Brass at Folding Line to Obstruct View Absolute Protection from Rain or Fog

Regular sizes: 38", 40", 42", 44". Total height, 30". Above sizes always in stock.

The strongest and the most easily operated front manufactured.

No tools necessary, no adjustments to be made, nothing to wear out or break. The best made front on the market.

The Champion Wind Shield or glass front is made of the finest plate glass and the very best quality of bronze and brass that can be produced.

The glass is rounded on the edges and forced into the brass channel, which is padded with leather and felt and cannot possibly work loose or rattle.

The hinges are of bronze, strong and simple in construction.

The frame is made of 16-gauge brass tubing, filled with 5/8-inch iron pipe.

Channel and hinges are fastened to frame with screws, which thread into iron pipe, making the strongest and most rigid frame on the market.

The channel on the Champion Wind Shield is wider than on any other shield manufactured, which eliminates all danger of glass breaking. It is also concave and fits frame perfectly. No solder or cement used in construction of front.

Automatic and will absolutely stay put.

The design throughout is simple, neat in appearance, with no places difficult to clean.

Entire frame hinges, stake rods, brackets, etc., finished exactly alike, consequently present an elegant appearance when polished.

FACTS

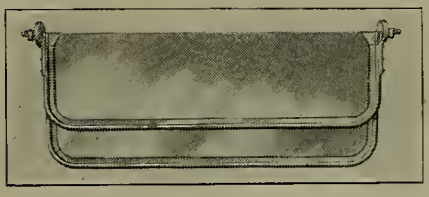
The best Polished Plate Glass is used, which is not Injurious to the Eyes.

It is a Protection from Rain, Shine, Dust or Fog.

It combines Simplicity with Strength.

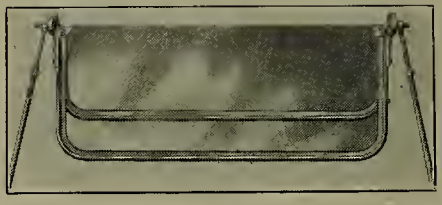
You have at all times an Unobstructed View.

It is GUARANTEED Perfect in Material and Workmanship.



Folded

Still a Protection to the Body



Folded

Showing Stake Rods Attached

We make to order special size shields and are prepared to ship same on twenty-four hours' notice.

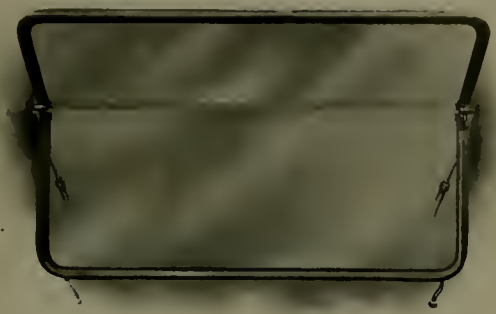
Write us for prices on anything you may need in the shield line. All work guaranteed.

Wind Shields

Stock Sizes

40 and 42 in. Extra charge for 44 inch, $2.50

No Rattling. No Adjustment ever required.



Height 24-26-28-30½ and 31 inches. **Unobstructed Vision. Every operation automatic.**

EARL ADJUSTABLE WIND SHIELD

The Earl Oscillating Shield.

This model performs three operations at the same time, all of them automatic, as follows:

Automatic adjustment to different positions.
Automatically moves forward and back to pass the steering wheel.
Automatic in operation.

Roadster Model.

This shield affords a clear vision, as the upper glass is close to the operator. Suitable for roadsters and phaeton body types. Lower panel is of selected mahogany instead of glass and well varnished to add to its durability. This model built to order.

Made in Three Models.
Price List.

Earl Adjustable	$50.00
Earl Oscillating Adjustable	55.00
Earl Roadster Adjustable	55.00

METZGER FRICTION WIND SHIELD

The Friction shield is mechanically perfect. No springs, thumb-nuts or rattle. Absolutely positive and can be operated with one hand. Cannot be broken by slamming, because it can't slam. The frame is made of seamless brass tubing, with a sub-channel to hold glass firm and prevent rattling.

Nothing to get out of repair—this shield may be instantly raised or lowered by the use of one hand while the car is in motion.

Positively Automatic.

It is easily within reach of the driver when wanted and may be quickly folded out of the way when not in use. Every owner will appreciate the unusual merits of this shield.

FRICTION WIND SHIELD

No. 1—38 in. Brass channel	$27.50
No. 1—41 in. " "	30.00
No. 1—44 in. " "	32.50
No. 2—38 in. Clear vision	$32.50
No. 2—41 in. " "	35.00
No. 2—44 in. " "	37.50

Furnished with 6-inch, 9-inch or 12-inch Filler Board.

Hartford Wind Shield

FIRST POSITION

This and all other positions antomatically acquired. No thumb nuts to work loose. To take up wear in friction plates, tighten hexagon nut on each side.

There is no other mechanism or other parts that need adjustment.

In Elevated Position

THE HARTFORD ADJUSTABLE WIND SHIELD

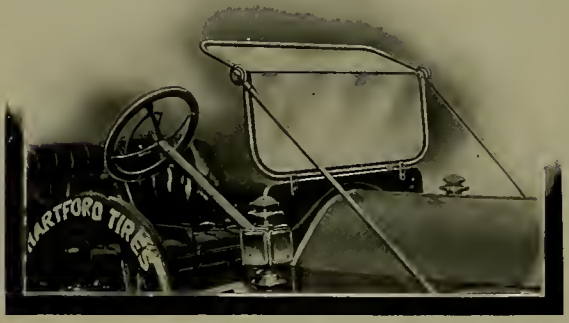
Has all the good points of any high priced shield; simplest in operation, no thumb nuts to work loose; any woman can handle with ease.

The up-to-date Wind Shield must embody at least the following features:

It must be a folding shield.
It must be light, but strong.
It must be a brass frame.
It must have plate glass with polished edges.
It must have no brass strip in center to obstruct view.
It must be absolutely without rattle.
It must be operated with one hand.
It must be operated from the driver's seat.
It must be neat in appearance, but durable.

Upon close investigation you will find the "Hartford" Wind Shield to embody all these features.

The Hartford Wind Shield is absolutely guaranteed for a period of six months from the date of purchase, against defective material or workmanship, but absolutely no guarantee on glass.



In Tilting Position

SECOND POSITION

To decrease wind resistance and cut the current of air out behind the neck of occupants of the front seat this feature is most desirable. Note straight line and absence of all troublesome mechanism.

Price **$35.00**
Price, with adjustable rods **$40.00**

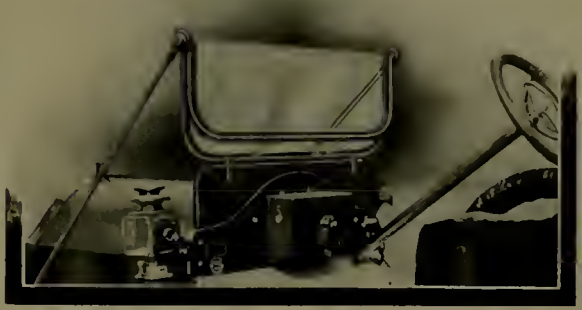
See opposite page.

Hartford Wind Shield

Third Position

Breaks so that line of lower half does not obstruct the view when folded.

No rubber bumpers necessary to spread the sashes apart when closed. Absolutely no rattle.



We Carry in Stock the Following Sizes:

No. 1. 38 inches wide by 28 inches high.
No. 2. 38 inches wide by 30 inches high.
No. 3. 40 inches wide by 30 inches high.
No. 4. 40 inches wide by 32 inches high.

We will manufacture these fronts in any size from 24 inches to 32 inches high up to 30 inches by 42 inches wide, no extra charge, at three days' notice.

Price List

Regular 38-40 and 40-inch	$35.00
With adjustable rods, making shield automatic	40.00
Nickel plated, extra	5.00
Curved Dash Hard Filler Board, extra	2.50

Shown in Its Elevated Position

Troy Wind Shield

Price

40 inches wide, out to out. $35.00
42 inches wide, out to out. 35.00
44 inches wide, out to out. 35.00

THE TROY WIND SHIELD

Honestly automatic. No thumb-screw or other locking devices to tinker with. Mechanism completely encased in the side fixtures. Every front leaves factory at proper adjustment. Impossible to get out of adjustment. DUST-PROOF, TINKER-PROOF.

Three positions — all automatically acquired. The tilting position diminishes wind resistance and gives a rakish look to the outfit, which is much affected by those who regard snappy lines of designment along with practicability.

Furnished with filler boards complete.

Nonpareil Horns

No. 60. DRAGON

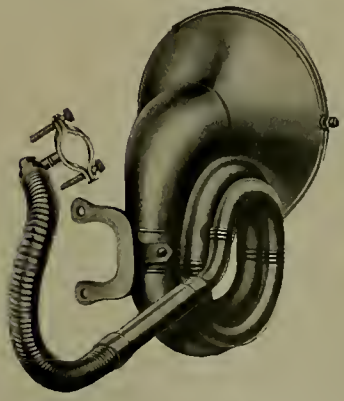
Entirely new model, large, coils very compact, exceptional deep tone, with 8 in. oval bell, Lyre bracket.

Price, each **$12.00**

No. 74. HORN

The latest novelty. Water or dirt cannot enter. Very deep tone. Reed in center of tube. A very fine horn for medium size cars.

Price, each **$5.00**



No. 34. NEW DRAGON

A large, well-constructed, deep tone horn. Straight or lyre bracket, 6¼ or 8¼ inch bell.

Price, 6¼-inch bell, each..... **$6.00**

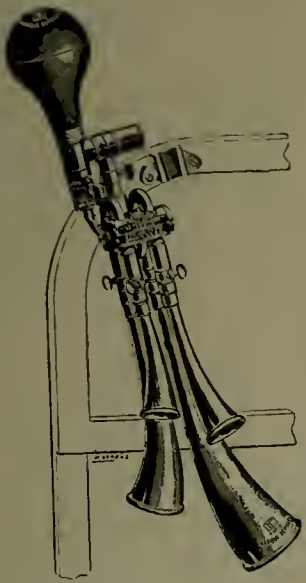
Price, 8¼-inch bell, each..... **8.00**

No. 72. NONPAREIL HORNS

An entirely new and distinctive design. The reed is in the center of the tube and gives the horn a very deep musical tone. 5-inch bell.

Price, each **$5.50**

Horns and Chimes



LE TESTAPHONE

This is the latest imported French Horn. It is operated automatically, each tube having a distinct musical tone, giving clear bugle call notes. Very simple and contains no parts to get out of order.

Price, each $20.00

"UNCAS" SIREN HORNS

Gives a wide range of tones from a low humming sound up to a piercing shriek. Consists of an air turbine driven by friction pulley (6) when pressed against fly wheel by the pedal (1).

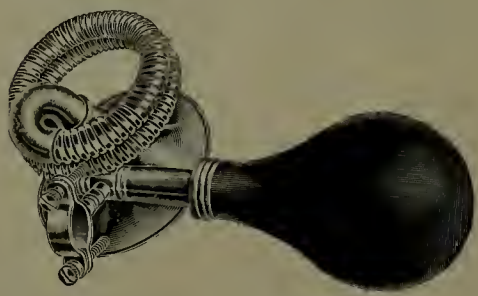
Price, each $20.00

HUSK MOTOR CHIME HORN

Made of solid brass, 2½ in. diameter, 16 in. long over all. The tone is rich and melodious, can be heard a long distance. Furnished complete with pedal and new style Butterfly Chime Valve.

Price List

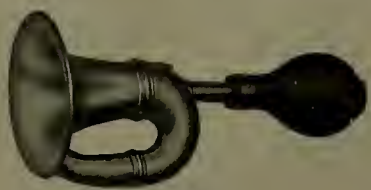
Complete with any size valve.
Price $7.50
(Specify size of valve wanted.)
Horn only
Price, each $5.00



No. 18 A

No. 18A—Motorcycle. 4-inch and 6-inch bell.

Price, each $2.50



No. 100 HORN

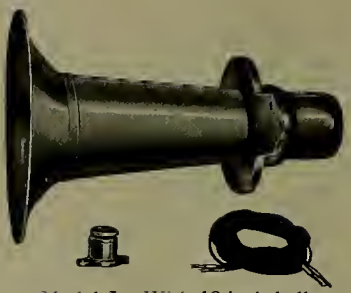
No. 100—A deep tone, adapted for use on taxicabs. Flexible tube. 5½ inch bell.

Price $3.25

Electric Horns

Model S—Short bell.....**$25.00**

Price includes push-button and properly insulated wire connections.



Model L—With 12-inch bell.. .....**$25.00**

Price includes push-button and properly insulated wire connections.

THE JONES ELECTRIC HORN

The Jones Electric Horn produces a tone similar to a high grade bulb horn with all the convenience, power and penetrating qualities of the power-operated horn. It is pleasing to the ear, not harsh or rasping, and can be heard at a great distance. The distinct features of this horn are instant beginning and instant cessation of sound, and economy of current consumption. It is simple in construction. Cannot get out of order. Very easily attached. Complete wiring to accommodate any ordinary car is furnished with a push-button attached. May be operated by the foot, or from the steering wheel, or at the side of the driver's seat. Operates on 6 Volt Storage Battery, or 5 Dry Cells.

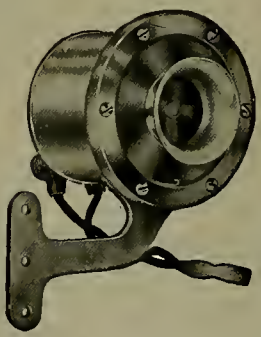
The most effective warning signal on the market. Its sound, sharp and penetrating, is of great volume. It attracts attention a mile ahead of an automobile equipped with it. Operates on any six-volt storage battery or eight cells of dry battery. Each horn is furnished complete with push button switch, 10 feet of ignition cable and fitted with insulated terminals.

KLAXON ELECTRIC HORNS

Marine type (not illustrated), with swivel bracket, to be placed on deck. Furnished in black enamel only.

Price each..... **$37.50**

Type L—Each **$35.00**
Size 9x12.



KLAXONET $20.00
Size 4¼x5.
Hand Klaxonet..**$15.00**
Size 8x12. Enamel black. Suitable for boat use.

Type S—Each **$30.00**
Size 4½x9.

Sireno Horns

"SIRENO" SENIOR
Length, 5½ inches.

Price **$35.00**

"SIRENO" JUNIOR
Length, 4½ inches.

Price **$25.00**

"SIRENO" WITH SHORT PROJECTOR
Sr.—Length 9 inches.
Price **$37.00**
Jr.—Length, 7½ inches.
Price **$27.00**

"SIRENO" WITH LONG PROJECTOR
Sr.—Length 14 inches. Price..... **$38.00**
Jr.—Length 9¾ inches. Price..... **28.00**

THE "SIRENO" SENIOR

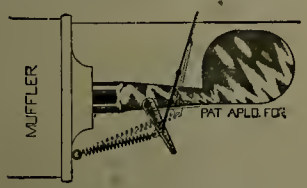
Manufactured in three sizes:—With long projector; with short projector; without projector. The volume of sound and carrying power increases with the size of the projector.

The "Sireno" is the largest and most powerful of the automobile warning signals manufactured by the Sireno Company. It is intended for both city and country service, starting instantly and stopping automatically the moment the push button is released. This is accomplished by means of an invisible magnetic brake contained within the motor, making the instrument wonderfully flexible. It enables the operator to produce a short, quick blast or a long, sustained note.

THE "SIRENO" JUNIOR

Manufactured in three sizes:—With long projector; with short projector; without projector. The volume of sound and carrying capacity increases with the size of the projector.

The "Sireno" Junior is so called because of its similarity to the "Sireno." In all the essential features it is the same as the larger horn, except that it is without the braking device and is of less volume in tone. It is the ideal horn for touring, responding instantly to the operator's touch and carrying its clear, musical note a mile ahead. The Sireno Junior has been designed to meet the requirements of that large middle class of cars which are neither extremely high-priced nor are they cheap.



JERICHO HORNS

Designed to attach to the muffler in place of the pig-tail pipe, or to the latter. Gives a distinctive and musical sound. Attached very quickly and at nominal expense.

Price List

No. 1—For 10 to 16 H. P. cars..... $ 6.00
No. 2—For 20 to 30 H. P. cars..... 8.00
No. 3—For 30 to 40 H. P. cars..... 9.00
No. 4—For cars over 40 H. P..... 10.00

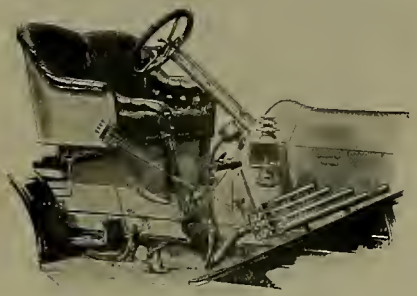
Price includes pulleys, cable and pedal for operating.

SIRENO MIDGET

Price, with Projector..... **$20.00**
Length, 8 inches.
Price, without Projector **$18.00**
Length, 4 inches.

The Midget fills the want of that large class of auto owners who require a small and less expensive long distance warning signal. The price of the Midget is in keeping with the price of their car. It is wonderfully efficient and penetrating.

Gabriel Horns



GABRIEL TRUMPET

An instrument suitable for producing bugle and trumpet calls; it is operated by a keyboard comprising four keys, each controlling a note. The tone is very clear and far-reaching; it never fails to attract attention and is a favorite with the exacting motorist who desires something more than the ordinary signal. A small lever on keyboard makes it possible to sound all four notes at the same time, by simply pressing the foot pedal, which makes it suitable for regular signal purposes.

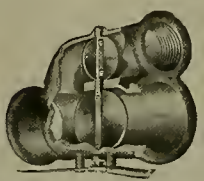
Sizes, Weights and Prices

Small size, 6½x28 inches, weight 4 lbs. **$75.00**
Large size, 9x32 inches, weight 6 lbs. **80.00**

Large trumpet is of greater capacity and produces a deeper tone than the small size; it is intended for use upon cars of high horse power.

Prices include valve and fittings.

Give name and model of car when ordering.



GABRIEL VALVE FOR 1910

Is superior to all former models; the lever which operates the discs is of harder and stronger material and of larger diameter; the screws which fasten the discs to stem are placed near the extreme edge, which makes the stem and discs practically as strong as if constructed of one piece.

The branch or outlet channel that leads to horn is always one inch standard iron pipe size. The main channel which fits upon the exhaust pipe varies, therefore, name, model of car, outside diameter of exhaust pipe and whether of iron or steel, must be specified when ordering. Sizes suitable for exhaust pipes ranging from 1 inch to 3 inches, outside diameter.

Price, any size **$5.00**

1910 MODEL GABRIEL HORN

Description

Material—Solid seamless brass tube of special composition.

Construction—Tube divided into three tone chambers and expansion reservoir, with removable union for cleaning. Joints silver brazed.

Tone—Three separate distinct notes, blending into a sweet musical chord; low and mellow or far-reaching and penetrating, as desired.

Finish—Regular, highly polished brass. For nickel finish, add ten per cent. to prices named.

Operation—Blown by the exhaust gases of motor, obtained by means of a valve and controlled by a foot pedal.

Sizes, Weights and Prices

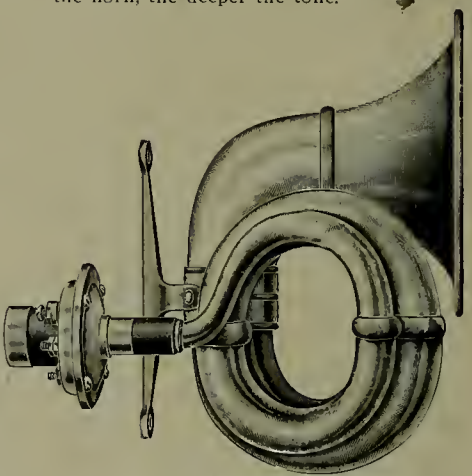
No. 2. 2½x30-inch tube, weight 3 lbs. **$18.00**
No. 3. 3 x32-inch tube, weight 3¾ lbs. **25.00**
No. 4. 3½x34-inch tube, weight 4½ lbs. **35.00**

Prices include valve, foot pedal, cable and spring.

Suggestions for Selecting Horn

No. 2 horn for cars of less than 20 H. P.
No. 3 horn for cars of 20 to 30 H. P.
No. 4 horn for cars of 30 H. P. and upward.

The capacity of horn should correspond to that of the cylinders which operate it. Give name and model of car and we will advise size of horn adapted to it. The larger the horn, the deeper the tone.



TRECO ELECTRIC HORN ATTACHMENT

Can be attached to any auto horn as shown by illustration, discarding the old horn bulb and reed; gives a sharp and penetrating long distance signal. Operated with storage battery or dry cells.

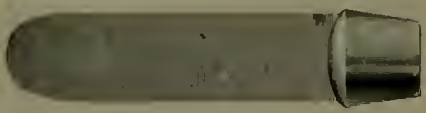
Price, complete (less horn) **$5.00**

Horn Parts---Electric Horn Attachments

WONDERTONE HORN REED

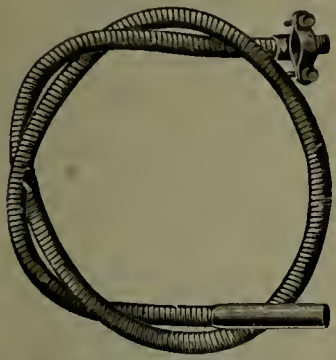
This is the latest horn reed produced. Fits any horn.

Price each.....$0.50



HORN REEDS

No. 1—Reeds, small, each.....$0.35
No. 2—Reeds, medium, each..... .35
No. 3—Reeds, large, each..... .35



FLEXIBLE TUBES

Flexible Tubes, 40 in., each.....$1.25
Flexible Tubes, 50 in., each..... 1.50
Flexible Tubes, 60 in., each..... 1.75

Divided Tubes, with reed in center. Give a deeper tone to horn.

40 inch Tube, each.....$1.50
50 inch Tube, each..... 1.75
60 inch Tube, each..... 2.00

FOOT BELLOWS

Will fit any Horn Tubing and increase the tone. Neat and durable.

Price each.....$1.50

SIRENO REGULAR SWITCH

The Regular Switch is always furnished with the complete equipment of all styles of the "SirenO" and SirenO JunioR, and included in the price.

Price each.....$1.00

SIRENO SPECIAL FLOOR SWITCH

Price $2.50

HORN BULBS

Extra quality seamless black bulbs; soft, pliable and springy.

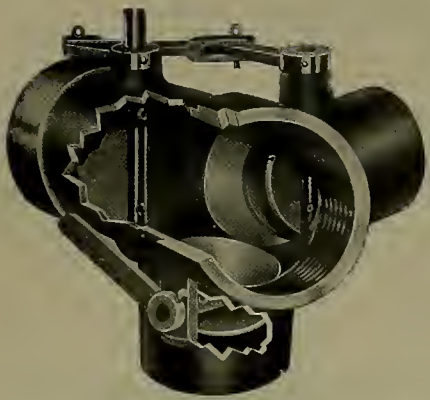
No. 8—Small $1.00
No. 10—Medium 1.25
No. 12—Large 1.50
No. 15—Extra Large 2.00

SIRENO STEERING WHEEL SWITCH

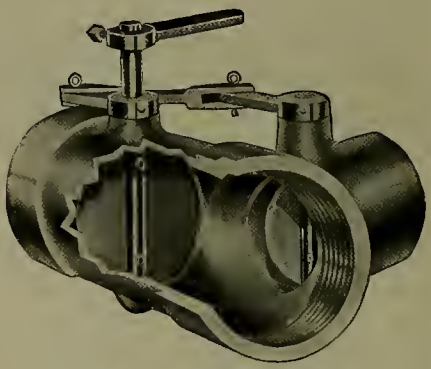
It can be used to operate any type of electric horn, speedometer or dash light, etc.

Price each.....$3.50

Chime Valves and Cutouts



STYLE "F," COMBINATION CHIME VALVE AND CUTOUT



STYLE "G," CHIME VALVE (Husk Type)

Style "F" has a muffler cutout in addition to the horn opening which does away with the necessity of an extra muffler cutout valve.

Style "G" is the same as style "F," except that it has no cut-out.

Threaded for standard iron pipe only and bore for outside diameter of steel tubing. Please order by number of pattern and state whether exhaust pipe openings are to be threaded, bored or left blank. The horn openings are all threaded to fit one-inch iron pipe.

Prices and Scale Sizes, Styles "F" and "G"

Pattern No.	1	2	3	4	5	6
Iron pipe, inches	1	1¼	1½	2	2½	3
Steel Tubing, inches	...	1½	2	2¼	2¾	3¼
Outside diameter, inches	1¼ 1⅜	1¾	...	2½	3	3½
Price, Style "F," blank	$2.75	$3.00	$3.25	$3.50	$3.65	$3.75
Price, Style "F," bored or threaded	3.00	3.25	3.50	3.75	3.85	4.00
Price, Style "G," blank	2.00	2.25	2.50	2.75	2.80	3.00
Price, Style "G," bored or threaded	2.25	2.50	2.75	3.00	3.00	3.25

Style "A"

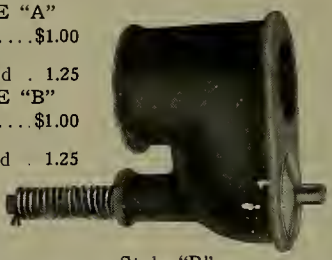
STYLE "A"

Blank $1.00
Bored or threaded . 1.25

STYLE "B"

Blank $1.00
Bored or threaded . 1.25

We furnish Style "A" or "B" in blanks threaded for standard pipe or bored for steel tubing.



Style "B"

Scale of Sizes, Styles "A" and "B"

Pattern No.	1	2	3	4	5
Iron pipe, inches	1	1¼	1½	2	2½
Steel tubing, inches	1⅜	1¾	2	2½	3
Steel tubing, inches	1½	...	2¼	2¾	...

LUNKENHEIMER GATE VALVE

Pipe thread	1	1¼	1½
Price, each	$2.50	$3.50	$5.00

Muffler Cut-Out Valves

This valve is the latest pattern and differs from every other cut-out on the market, as it is so constructed that an explosion in the muffler and exhaust pipe which would ordinarily burst the muffler will be relieved automatically as the valve opens outward, and is held on its seat by a spring sufficiently strong to withstand the ordinary pressure of the exhaust. The clamping feature permits of its being quickly attached, the same as styles "C" and "D." The valve body is made of malleable iron and forms a socket to accommodate the residue and carbon from the engine. It will clean itself automatically when the valve is opened, preventing the clogging of the muffler.

Order by pattern number and state whether bored for steel tubing or left blank for iron pipe.

Scale of Sizes and Prices for Style "E"

Pattern No.	1	2	3	4	5	6
Iron pipe, inches	1	1¼	1½	2	2½	3
Steel tubing, inches	1⅜	1¾	2	2½	3	3½
Steel tubing, inches	1½	...	2¼	2¾	3¼	...
Prices, each	$2.70	$2.85	$3.10	$3.35	$3.60	$3.85

STYLE "C"
MUFFLER CUT-OUT

Styles "C" and "D" Muffler Cut-out is made of malleable iron and is exceptionally practical, as it does not necessitate the removal of the exhaust pipe to apply. All that is necessary is to cut a V-shaped hole in the exhaust pipe with a hack saw and clamp the cut-out on and connect to the footboard.

STYLE "D"
MUFFLER CUT-OUT

We furnish these in six different sizes to fit standard pipe.

Order by pattern number and state whether bored for steel tubing or left blank for iron pipe.

Scale of Sizes and Prices

	Pattern No.	1	2	3	4	5	6
	Iron pipe, inches	1	1¼	1½	2	2½	3
Style "C"	Steel tubing, inches	1⅜	1¾	2	2½	3	3½
	Steel tubing, inches	1½	...	2¼	2¾	3¼	...
	Prices	$1.40	$1.50	$1.60	$1.70	$2.00	$2.00
	Pattern No.	1	2	3	4	5	6
	Iron pipe, inches	1	1¼	1½	2	2½	3
Style "D"	Steel tubing, inches	1⅜	1¾	2	2½	3	3½
	Steel tubing, inches	1½	...	2¼	2¾	3¼	...
	Prices, each	$2.70	$2.85	$3.10	$3.35	$3.60	$3.85

Pedals—Pulleys—Springs

Style F
Brass, each.$0.75

Style G
Brass, each.$0.60

Style H
Brass, each.$0.40

Styles "A," "F," "G" and "H" Pedals are neat in design and made of very strong material.

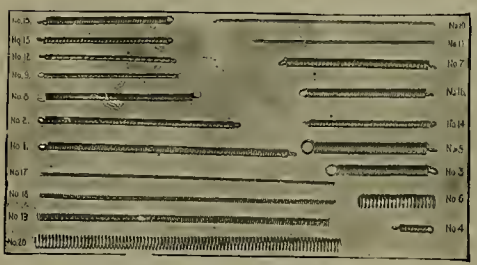
Style K
Brass, each.....$1.25

Style L
Brass, each.....$1.00

Style M
Brass, each.....$1.00

Styles "K," "L" and "M" are lock pedals, simple of operation, neat in design and made of very strong material.

In our assortment of pedals we have selected only the best.



ASSORTED SPRINGS

Packed in box of twenty assortment, as shown above. All are finished springs and exactly as used on automobiles. Nos. 17 to 20 are to cut up as wanted.

Price per box.....$0.70

PULLEYS

Price, each.....$0.10

Lamp Covers Knuckle Boots Aprons

HEADLIGHT LAMP COVER

Made of rubber cloth for all styles of lamps. State make and size of lamp when ordering.
Price, each .....$ 1.00

SIDE OIL LAMP COVER

Made of rubber cloth. State make and size of lamp when ordering.
Price, each .....$ .75
Set of Five Lamp Covers 3.75

TAIL LAMP COVER

Made of rubber cloth. State make and size of lamp when ordering.
Price, each .....$ .75

END THRUST BOOT

Made for bearings at each end of thrust rods.
No. 1—Fabric.. Each..$ .50
No. 2—Leather. Each. .75

UNIVERSAL JOINT BOOT

Suitable for all universal joints.
No. 1—Fabric. Each..$ .50
No. 2—Leather. Each. 1.00

STEERING KNUCKLE BOOT

Made for cross rod bearings.
No. 1—Fabric. Each..$ .50
No. 2—Leather. Each .75

AUTOMOBILE COVER

Material, genuine rubber cloth. These are intended as a cover for the car while in the garage or in storage as a protection from smoke, dust or dampness.

Prices

Runabout, 144x100 .....$10.00
Small tonneau, 180x100 .... 12.00
Large tonneau, 216x150 .... 15.00

WASHER'S APRON

Made of waterproof material. Used by washers in garages, etc.
Price, each $1.50

RUBBER SLEEVE PROTECTORS

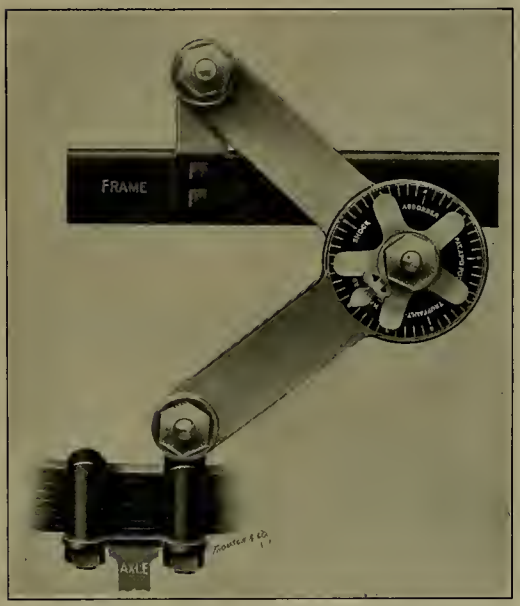
Made from best rubber cloth with adjustable cuff.
Price, per pair .....$ 1.25

STRAPS

Only best grade harness leather used. Either black or russet.

No.
1000 No. Plate Straps, ½x12
Each .....$ .10
1001 Bumper Straps, ½x18,
Pair ..... .25
1002 Tire Iron, Straps, ⅝x28,
Each ..... .15
1003 Spring Straps, 1½x36,
Pair 1.50
1004 Trunk Straps, 1x84, ea. 1.25

Truffault-Hartford Shock Absorbers



Standard for Cars Weighing 2,000 Lbs. and Over

Indispensable for Safe and Comfortable Motoring

CARS EQUIPPED AT THE FACTORY WITH TRUFFAULT-HARTFORD SHOCK ABSORBERS

Packard
Pieree Great Arrow
Thomas
Studebaker-Garford
Acme
Chadwiek
Stevens-Duryea Six
Lane Steamer
Marmon
Apperson
Benz
Allen-Kingston
Sharp-Arrow

COMFORT is a Factor Well Worth Considering

The easy riding qualities of a car equipped with Truffault-Hartford Shock Absorbers makes motoring doubly a pleasure. The absence of jolt and jar, the smooth, wave-like motions of the body of the car, with no excessive recoil, even when traveling over the roughest roads—accomplished by the springs of the car being kept within their normal working limits—makes your car worth twice as much to you.

ECONOMY is a Saving

Ninety per cent of the cost of upkeep, aside from fuel and lubrication, is due to excessive vibration. When you buy a motor car you expect it to undergo more or less wear and tear. Wear is but natural, but tear is expensive and discomforting. Truffault-Hartford Shock Absorbers by reducing vibration to a minimum will cut your repair bills in two, and by keeping the wheels of the car on the ground give perfect traction and effect a great reduetion in tire expense.

SAFETY Means Freedom from Danger

A spring breaking on a car going only at a moderate speed is likely to prove disastrous. Truffault-Hartford Shock Absorbers positively eliminate this dangerous element of motoring. The Truffault-Hartford Shock Absorber is better than the best insurance policy. It prevents accident and protects you beforehand—not someone else afterwards.

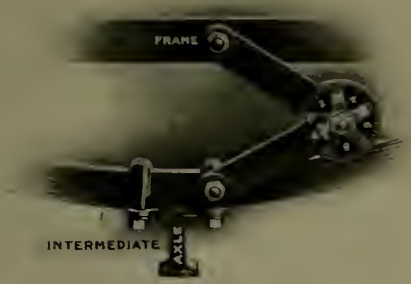
Mention make, year and model of car when ordering.

Speeial Fittings for making the application to the car are furnished without extra charge.

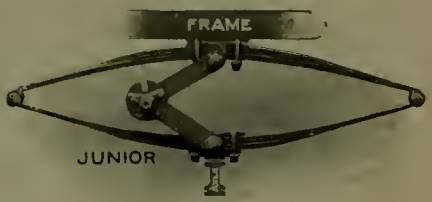
Hartford Standards — Set of four..... $60.00
Hartford Standards — Set of two..... 30.00

Truffault-Hartford Shock Absorbers

All Roads Are Smooth Roads With Hartford Shock Absorbers



INTERMEDIATE
For Medium Size Cars Weighing from 1350 lbs. to 2000 lbs.



JUNIOR
For Small Cars Weighing 1300 lbs or Less.

A smooth-running car is a joy forever. Any car can be made smooth-running by equipping it with Truffault-Hartford Shock Absorbers.

The Truffault-Hartford Shock Absorber properly controls the springs, insuring for them their maximum efficiency, practically eliminating the possibility of breakage and promoting comfortable riding over rough roads.

As the spring action of the car determines its running qualities, the power for good of the device can be readily conceived.

Seventeen prominent car builders, after satisfying themselves by actual test that the use of Truffault-Hartford Shock Absorbers contributed to the running qualities of an automobile, are equipping with the device at their factories.

Springs, subjected to excessive oscillation, if they do not break, will deteriorate in efficiency in a remarkably short time.

The Truffault-Hartford prevents excessive oscillation, practically precluding the possibility of breakage, maintaining the original efficiency of the springs, adding to their life.

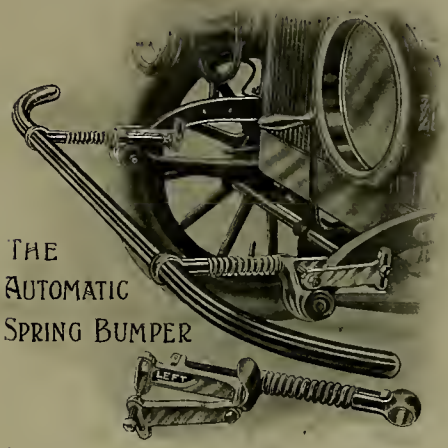
Every time that the wheels of an automobile come in contact with an obstruction or go into a depression in the road-bed the springs are crushed against the axle. Then comes the recoil, the body of the car is thrown in the air until the springs are expanded their limit. It is in the recoil that the springs are generally broken, the lower leaves of the spring not following the upper ones quickly enough to support them. Hence the break. It is this excessive spring action and incessant trip-hammer pounding that racks the general mechanism of a car and hastens its relegation to the scrap pile.

The Truffault-Hartford positively prevents all this. Controlling, as it does, the action of the springs on both upward and downward movements of the car body, these movements are never extreme, so that there is little or no bound and rebound when the car's wheels sink into a depression or come in contact with an obstruction.

Mention make, year and model of car when ordering. SPECIAL fittings for making the application to the car are furnished without extra charge.

Hartford Juniors. Set of four..... **$25.00**
Hartford Juniors. Set of two..... **12.50**
Hartford Intermediates. Set of four..... **45.00**
Hartford Intermediates. Set of two..... **22.50**

Bumpers—Automatic and Rubber



	Prices.
Complete, all brass	$10.00
" black fittings, brass tube	9.00
" all black	8.00
Bar only, brass	3.00
" " black	2.25
Right or left bracket complete, brass	4.00
Right or left bracket complete, black	3.25

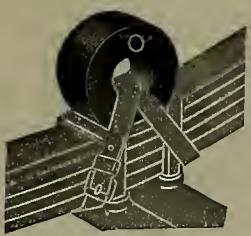
In ordering state model and make of car.

It simply clamps to the frame and the thrust of any shock is on the end of the frame and not on the Spring hanger bolt.

The bar is selected steel covered with a solid brass tube. The reason there are not more Bumpers used is that owners object to the changing of the spring hanger bolt and drilling holes in the frame, which is necessary to attach any other Bumper except "The Automatic."

It is so universal that it will fit 99 per cent of the automobiles on the market.

Anyone can put it on in one-half hour. Directions for applying are fastened to one of the brackets.



They make riding easier.

Round Auto Bumpers

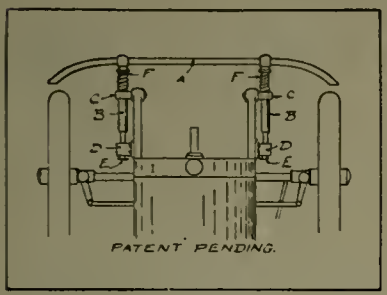
Diameter 3½ in.; width 1½ in.; hole 1½ in.
Each $0.75

Curved	Length	Height	Thickness	Price
No. 1	6½ in.	2⅞ in.	1¼ in.	$0.75
No. 2	8 in.	3½ in.	1½ in.	1.00
No. 3	8¾ in.	3¾ in.	1¾ in.	1.25
No. 4	9¼ in.	4⅛ in.	2 in.	1.50

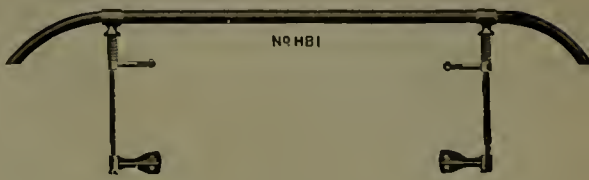
HARTFORD RUBBER BUMPERS

Like the Tires, Hartford Accessories are of the quality that last.
We are Pacific Coast Agents for Hartford Tires.

Bumpers—Harroun



Sectional View, Showing Bumper Attached to Car



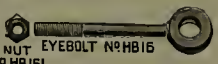
HARROUN AUTO BUMPER

Price, each, Brass complete..... $15.00
Price, each, Black complete..... 12.00

In ordering, please specify name, year, type and model of car.

An accessory that is ornamental as well as practical. It absorbs shocks caused by bumping into garage walls or door jambs; also protects radiators and lamps from damage that results from any vehicle backing into your car, while standing at curb or driving through crowded thoroughfare. Such accidents cannot be prevented by driver, no matter how careful he may be. After once using this device on a car, a driver would not be without it, as it inspires confidence.

STRAP BRACKET Nº HB23

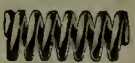

NUT EYEBOLT Nº HB16 Nº HB161

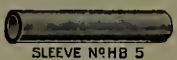
ANGLE BRACKET Nº HB 32

LOCK NUT Nº HB22

FEMALE EYEBOLT Nº HB31

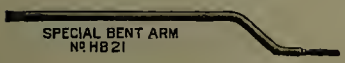
Nº HB171

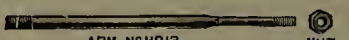

SPRING Nº HB14


SLEEVE Nº HB 5

TEE Nº HB12

BRACKET Nº HB17


SPECIAL BENT ARM Nº HB21

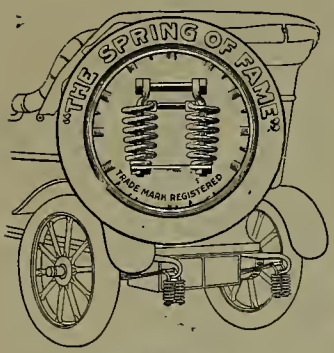

ARM Nº HB13 NUT HB131

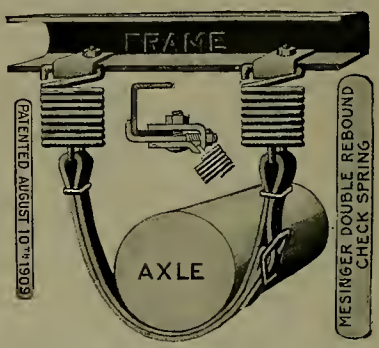
HARROUN BUMPER PARTS

When Ordered Separately

No.		Brass Plated
H. B. 13	Arm, including nut, any size	$1.35
H. B. 21	Arm, including nut, special	1.35
H. B. 131	Nut, only, for Arm	.10
H. B. 15	Eyebolt, including nut, any size	1.35
H. B. 151	Nut, only, for eyebolt	.10
H. B. 31	Female eyebolt	1.35
H. B. 14	Spring and H. B. 5 Sleeve, any size	1.00
H. B. 17	Bracket, including bolts	1.20
H. B. 23	Strap Bracket, including bolts	1.20
H. B. 32	Angle Bracket, including bolts	1.20
H. B. 12	Brass Tee	1.00
H. B. 22	Lock Nut	.40
H. B. 171	Bolts	.10

Supplementary Springs—Spring Repairers





SUPPLEMENTARY SPIRAL SPRINGS

A set consists of a pair of spiral coil springs and hanger for each side spring, four pairs in all.

Price, per Full Set of Four Pairs

For	Per Set
Light-weight cars	$25.00
Medium-weight cars	30.00
Heavy-weight cars	35.00
Cars with Limousine bodies.	40.00
Commercial vehicles—Prices according to weight.	

Price per Full Set of Two Pair

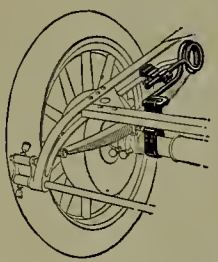
5/16 Springs	$12.50
3/8 Springs	15.00
7/16 Springs	17.50
1/2 Springs	20.00

MESINGER REBOUND CHECK SPRING

Checks the rebound evenly. Can be attached to steel or wood frame, quick and permanently at no expense.

Made in three sizes.

	Single	Double
No. 1—Cars up to 1,200 lbs., pair	$3.00	$4.50
No. 2—Cars from 1,200 to 1,800 lbs., pair	4.50	6.75
No. 3—Cars from 1,800 lbs. up. pair	6.00	9.00



THE THOMAS SHOCK ABSORBERS

Simple, durable and practical device for preventing upthrow jolts and breakage of springs.

No.	
0—Runabouts	$12.00
1—Light touring cars..	14.00
2—Touring cars	16.00
3—Limousines and heavy cars	18.00

Repairer supporting leaf, broken half-way between center of spring and horn (or end) of spring, and preventing other leaves from breaking.

Repairer taking place of horn (or end of spring) which has snapped off. By inserting bolt in hole shown and fastening same to top spring as before the break, the spring end is replaced as though the break had never occurred.

Repairer attached to spring, broken in center at spring bolt.

AUTO SPRING REPAIRERS

Will repair any broken spring without reducing its resiliency.

Can be adjusted in five minutes to carry the heaviest car over the roughest road.

Price, each $4.00

Auto Folding Chair

No. 1 Auto Folding Chair

This is a popular folding seat particularly adapted for automobiles. When not in use can be folded flat and laid under the seat. In use, it is comfortable and rigid. The steel frames are finished in black japan. Trimmed in leatherette.

No. 1. For adults, price $3.50
No. 2. For children, price 2.50

AUXILIARY CHAIR SEAT

The Auxiliary chair seats are graceful, reliable and adaptable to any car.

When not in use they can be folded up against side of car, or if preferred can be lifted out of slot and removed.

These seats revolve and allow occupant to face in any direction desired.

Furnished in black leather or leatherette. Colors extra charge.

No. 8. Finished in leatherette..... $6.00
No. 12. Finished in genuine leather.. 10.00

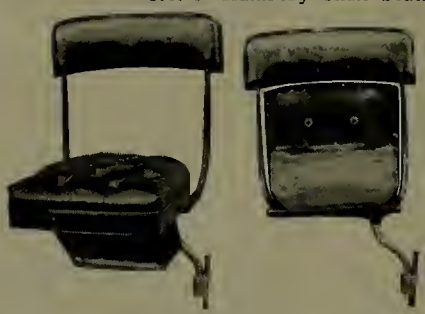
No. 8 Auxiliary Chair Seats

No. 25 Auxiliary Seats, Folding Cushion

Seats are round, 13 inches in diameter, springs in. Cushion height from bottom of seat to top of back, 18½ inches. Seat revolves, cushion folds up against side of body out of the way. Trimmed in No. 1 M. B. leather. Black leather finish with attaching irons.

Price, each.....$23.50

When ordering kindly give length.



No. 20 Auxiliary Seats, Folding Cushion

This seat has a square cushion with back corners rounded, size: width 14¼ inches, depth 13¾ inches, height from bottom of seat to top of back 18½ inches, back 5½ x 18½ inches. Springs in cushion. Black leather finish, with attaching irons.

Price, each.....$28.50

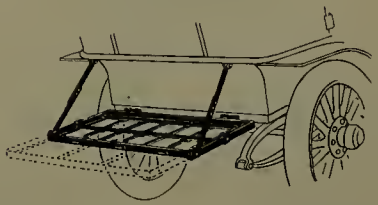
FOLDING TRUNK RACK

They are easily adjusted to any car with ordinary tools.

This device fills every requirement, and not only is it built strong enough to carry heavy loads, but when out of use it can be folded up against the back of the car where it is entirely out of the way.

Price, each..... $3.00

Sizes—Length 28, 30, 32, 34 inches.



SLIDING TRUNK RACK

Adjustable folding Trunk Rack which can be expanded or contracted at will, enabling one to carry any size trunk or grip. Made of 1¼-inch flat steel, finished in black.

Price, each.....$5.00

Trunks—Pillows

ROUND TIRE TRUNKS

No. 500—Black, Single. Each..... $ 9.00
No. 501—Black, Double. Each..... 10.00
No. 502—Colors, Single. Each..... 12.00
No. 503—Colors, Double. Each..... 13.50

Description

Patent leather finish, leather bound, lock buckles on straps. Fits inside extra tires. Convenient for hats, extra tubes, small tools, etc. Made in following sizes:

One Tire	Two Tires	Sizes
6x21	9x21	for.....30x3½, 30x4, 32x4½
6x24	9x24	for...32x3½, 32x4, 34x4½, 34x5
6x25	9x25	for...34x3½, 34x4, 36x4½, 36x5
6x26½	9x26½	for.....36x3½, 36x4

Nos. 500, 501, Black.
Nos. 502, 503, Red, Maroon, Grey, Dark Blue.

SQUARE TRUNKS

Touring trunks that ornament the highest class cars. Handsome in every detail. Waterproof and easy to keep clean. Light and strong. Have roomy tray. Made in black in the following standard sizes:

No.	Each
600—28x14x13	$16.50
601—30x16x14	17.00
602—32x18x15	17.50
603—34x20x16	18.00

Special sizes and colors to order. We also make trunk covers to fit all of above sizes.

SUIT CASE TRUNKS

This style has been in demand and has been added to our line.

The finish of the Trunk is the same as our Square Trunk. The front drops down to give easy access to the suit cases. These are made of black patent enameled goods in keeping with the Trunk. The Trunks are waterproof. Size 29″x15″x14″.

No. 801—With two suit cases, 28″....$27.50
No. 800—With two suit cases, 30″.... 30.00

A very comfortable acquisition to the automobile. Adds to the pleasure of touring.

PILLOWS

Black Enameled Drill

No. 20—14x14x in. Each.....$1.50
No. 21—18x18 in. Each..... 2.00
Special sizes to order.

SQUARE TRUNKS

Tire Covers—Inner Tube Cases

LACE TIRE COVERS

For Sizes up to 38x6.

Made of the best enameled duck. Will fit perfectly all makes and styles of tires. Guaranteed waterproof.

Regular—Plain black. Price, each....$2.00
Special—Made in colors to match car.. 3.00

BUTTON TIRE COVERS

For Sizes up to 36x5.

A new style button tire cover, made of the best enameled duck. Easily applied, fits perfectly.

Regular—Plain black. Price, each....$2.50
Special—Made in colors to match car.. 3.00
For sizes over 36x5, add 50c each.

MAGNETO COVERS

Made of Heavy Leathers. Carried in stock for all style Magnetos. Specify make and model of Magneto.

Price, each.....$1.50

"EASY ON" TIRE COVER

This cover is cut and shaped to fit perfectly all sides of the tire. The only fastening necessary is at the ends. The two ends of the cover overlap after being put on the tire.

Instructions how to put this tire cover on are sent with each tire and any one can put this cover on and have it fit perfectly smooth.

Regular—Plain black $2.50
Sizes over 36x5 ..... 3.00

INNER TUBE CASE

This case is made so that the tubes can be put inside of the case and closed up tightly by means of glove fasteners, absolutely protecting them from oil, dust and injury of any kind.

Single. Each .....$ .50
Double. Each ..... .75

All Tire Covers packed in extra Tube Bags.

Tire Sleeves—Blow-Out Patches

HARTFORD LACED TIRE SLEEVES

They are made in three sizes and will fit any and all tires, because they are cut in a way to fit closely against either small or large tires from end to end of Band, and the lacing allows of adjustment to all sizes.

Price List

No. 1—2½ and 3 inch tires. Each....$1.25
No. 2—3½ and 4 inch tires. Each.... 1.50
No. 3—4½ and 5 inch tires. Each.... 1.75

WILES TIRE SLEEVE

For blow-outs and rim cuts. Easily applied. Furnished with patch for inside of case.

Are made with metal clasp to clinch over casing in case of blow-out.

No. 1 for 3 inch tires, each.....$1.50
No. 2 for 3½ inch tires, each..... 1.75
No. 3 for 4 inch tires, each..... 2.00
No. 4 for 4½ inch tires, each..... 2.25
No. 5 for 5 inch tires, each..... 2.50
Wiles inside patch..... .25

HARTFORD SHOE LINER

Or Blow-Out Patch

Is made so that the edges can be clinched between the bead of outer case and rim, thus preventing creeping. Fits on the inside between outer casing and inner tube.

Price List

Small Size, 5½" x 7". Each.....$ .25
No. 1, for 2½" x 3" tires. Each .50
No. 2, for 3½" x 4" tires. Each .75
No. 3, for 4½" x 5" tires. Each 1.00

HAGSTROM BLOW-OUT PATCH

For blow-outs and rim cuts. Patented hook prevents creeping. Made for Clincher or Q-D cases. State for which style wanted when ordering. Sizes 3-in. 3½-in. 4-in. 4½-in. 5-in.
Price ..$2.00 .$2.25 $2.50 $2.75 $3.50

C. & L. RUBBER TIRE SLEEVE

Laced for Outside
Plain for Inside

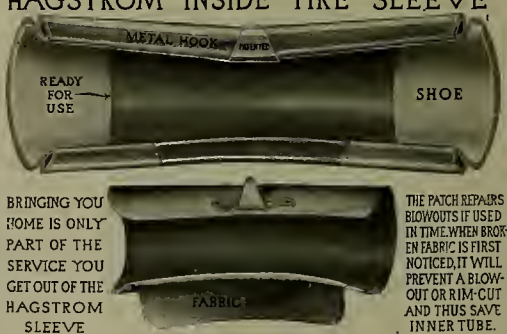
This tire sleeve is invaluable for emergency repairs, where the edges of the case may be cut or the fabric of the tire broken.

Inside sleeve should be used in connection with the outside sleeve. In cases where the fabric is broken its use will prevent possible damage to the inner tube. In ordering, state size of the tire.

Price List

No. 1 for 2½ and 3 inch tires....$1.25
No. 2 for 3½ and 4 inch tires.... 1.50
No. 3 for 4½ and 5 inch tires.... 1.75
Inside Sleeves ..... .50

HAGSTROM INSIDE TIRE SLEEVE



BRINGING YOU HOME IS ONLY PART OF THE SERVICE YOU GET OUT OF THE HAGSTROM SLEEVE

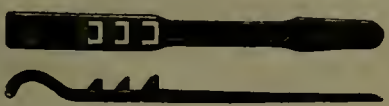
THE PATCH REPAIRS BLOWOUTS IF USED IN TIME. WHEN BROKEN FABRIC IS FIRST NOTICED, IT WILL PREVENT A BLOW-OUT OR RIM-CUT AND THUS SAVE INNER TUBE.

Tire Tools and Wrenches

SPRINGFIELD TIRE TOOL

Will release case when rusted into the bead, holds up case while part of tube is withdrawn or lugs inserted.

Price, each $1.25



KRACKER JACK TIRE IRONS

Very useful for removing or adjusting tires.

Very durable. Every automobile should be equipped with one.

No. 1—13½ inches long (plain)....$ .30
No. 2—18 inches long (galvanized) .60

SMALL TIRE TOOL

8½ inches long. Nickel plated. Convenient to carry in tool box. Durable and well designed.

Price, each .....$ .40

MICHELIN TIRE IRON

A new style fork lever tire tool for removing and replacing security lugs and tubes in tires. Equipped with rollers, which prevent damaging tire while removing.

Price .....$ .50

LARGE TIRE TOOL

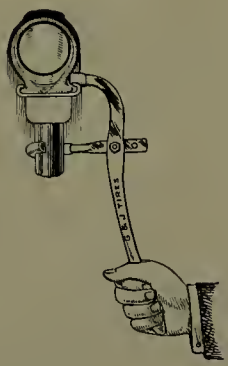
It can be used for a number of operations in attaching and applying tires. This tool is 18 inches long. Impossible to pinch inner tube, does not injure or strain the case. No tool kit is complete without it.

Price, each.....$ .75

NO. 1 TIRE LUG RATCHET WRENCH

Every automobilist has been looking for this little time-saver, and no tool kit is complete without it. Black finish, case hardened throughout. Made in four sizes to fit lugs ½, 9-16, ⅝, ¾-inch.

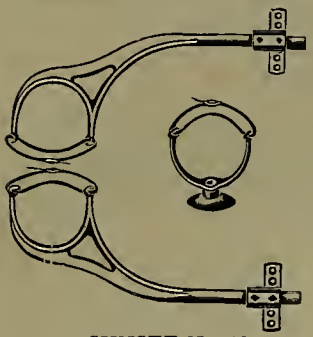
Price, each .....$ .40



G. & J. RELEASING TIRE TOOL

The purpose of this tool is to release from the rims, tires which have been on rims so long that they have become fairly set in the rims. With its use any tire, no matter how firmly it is seated in the rim, may be easily removed. The cut describes, better than words, the manner in which it is operated.

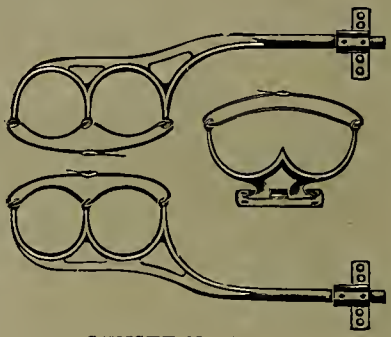
Price, each $1.00



Tire Holders

No. 10 Single
Brass ...$3.75
Black enamel $2.00

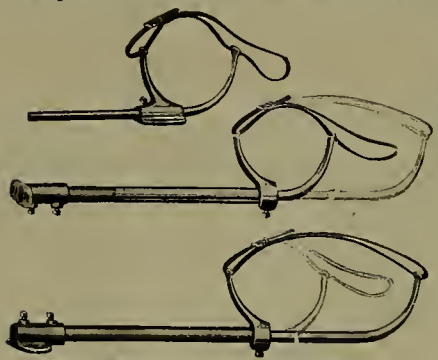
No. 20 Double
Brass ...$4.75
Black enamel $2.50



SUNSET No. 10 **SUNSET No. 20**

Styles Nos. 10 and 20, extension holders, are furnished in a high grade yellow brass or black enamel.

These holders are designed for carrying extra tires at the side of car, and are adjustable, fitting all cars which have a flange under front seat. Is one of the most convenient and best designed tire holders on the market. Easily attached to any make of car. Thief-proof. Does not allow tires to chafe or vibrate.

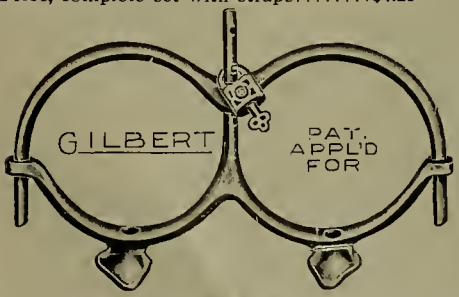


TELESCOPE TIRE HOLDERS

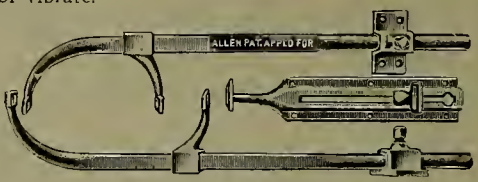
Set of Three Pieces With Straps.

Made of solid heavy brass. The most convenient and ideal device for carrying one, two or three extra tires. Mechanically and substantially constructed, and finished in a high bright luster. It can be fitted to any shape car with the greatest ease, and can be removed for cleaning purposes by loosening a set screw. Most recent and modern device of its kind yet offered.

Price, complete set with straps.....$4.25



Lock Tire Holders



SIMPLEX TIRE HOLDERS

The Simplex Tire Holder consists of a set of three pieces—two side pieces for attaching to the body of the car and one bottom bracket to be attached to the running board.

Can be adjusted to hold one or two tires.

The length can also be adjusted from three to twelve inches at reverse end of bracket.

Price, complete set.....$5.00

THREE-PIECE TIRE HOLDERS

Designed to carry the spare tire at the rear of small runabouts. Made in polished brass only.

Price List.

Price, per set of three.....$2.00
Price, each..... .75

LOCK TIRE HOLDERS

Made for one or two tires. Can be placed on running board. Furnished with genuine Yale lock and two keys.

	Price		
Single —Brass.....	$3.50	Black.....	$2.00
Double—Brass.....	5.00	Black.....	3.00

Tire Tape—Pump Tubing—Pressure Gauges—Soap Stone

HARTFORD TIRE TAPE

Especially prepared for quick repairs to punctured tires—of selected fabric and good adhesive qualities—½-lb. and 1-oz. rolls.
½-lb. rolls, ¾-in. wide, each.....$0.25
¾-lb. rolls, 1¼-in. wide, each..... .35
1-oz. rolls, ¾-in. wide, per lb..... .80

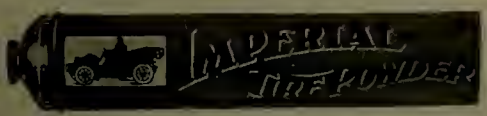
COMPRESSO-METER

Each $5.00

The successful operation of the Compressometer is based on a specially designed gauge of the single spring independent type, and equipped with a maximum hand, which remains at the highest point of compression.

Directions for Using.—Remove spark plug. Insert Compressometer plug until tight, then face gauge out and turn lock nut down, thus assuring contact of ground surfaces. Place red hand at zero and turn engine over **by hand. Never run engine** while the Compressometer is in the head of the cylinder.

When ordering, please state whether Standard, Metric or A. L. A. M. thread is desired.

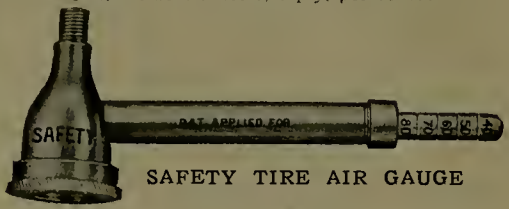


Imperial Tire Powder or Soap Stone

HARTFORD PUMP TUBING

Heavy 5-ply tubing for automobile pumps when a high pressure tubing is wanted to stand strain.

⅜-in. inside diameter, 5-ply, per foot..$0.10
¼-in. inside diameter, 5-ply, per foot.. .12



SAFETY TIRE AIR GAUGE

The Safety Tire Gauge tells you the air pressure in your tire and the increased air pressure in tire with each stroke of your air pump, not the amount of pressure you are putting on your pump, but the actual pressure within tire at all times.

The Safety Tire Gauge is a Pump Connection and Air Gauge combined into one.
Price, each $1.50

TWITCHELL AIR GAUGE

The Twitchell Air Gauge is only three and a half inches long. It can be carried in the vest pocket, and is always ready for use. It can be applied in two seconds and its registration is instantaneous and correct. It can be applied at any time and at any place, without inconvenience. It will not get out of order with any reasonable use.
Price, each $1.50

TIRE POWDER

The finest quality of prepared French chalk for dusting the inside of tires to prevent the tube sticking to the case. Put up in tin cans of size convenient for use and for carrying in the tool kit.
½-lb. tubes, each.....$0.15
1-lb. tubes, each ..... .25
1 lb. bulk, per pound..... .10

Pumps

SKINNER PUMPS

Single Acting Pump, stirrup base, each...$1.75
Compound Pump, stirrup base, each.... 3.50
Compound Pump, with gauge, each..... 5.50

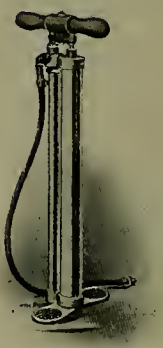
Skinner Air Pumps are guaranteed to produce the high pressure required easier, quicker and more effectively than any other.

Compound

SHEFFIELD IMPORTED PUMP
(Not illustrated)

Twin cylinder, double acting. Positively the most powerful and easiest working foot pump on the market. Folding base with gauge.

Each $12.00



Hartford Pump

HARTFORD COMPOUND PUMP

A handsome and reliable pump. Has no complicated parts to get out of order. Made of seamless brass tubing, highly polished. Powerful, yet easy to operate.

Price $3.00

No. 99 COMPOUND PUMP

Price, without gauge.....$12.50
Price, with gauge..... 14.50

NO. 99 PUMP

Is a splendid pump for garage use. Constructed of brass, highly polished. Size of cylinders, 2x3½ inches. Furnished with baseboard and three feet of hose.

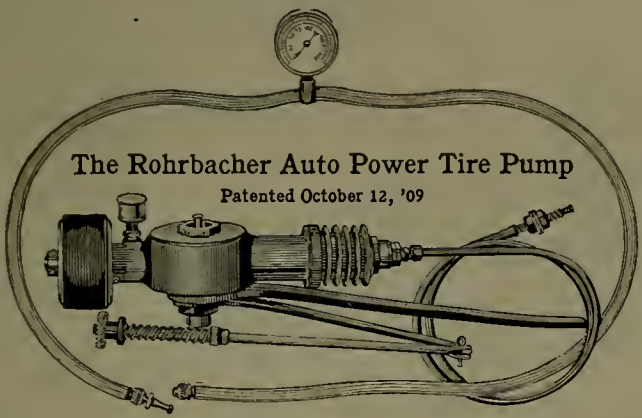
No. 50 COMPOUND PUMP

Similar to No. 99, but handle is bent to a horizontal position. Platform mounted on castors and large enough to stand on.

No. 50—Without gauge, each.....$13.50
No. 50—With gauge, each..... 15.50

Power Tire Pumps—Air Tanks

The Pump That Saves Your Tires, Time, Money and Temper.



In designing the Rohrbacher Auto Power Tire Pump, special care has been taken as regards material, workmanship and construction, to make it far superior to any other air pump on the market.

ROHRBACHER AUTO-POWER PUMP

Price $25.00

The Rohrbacher Auto Power Tire Pump can be attached to the frame of any car, set at any angle. Is driven by friction wheel against face of engine fly wheel. You do not have to slow your engine down. Pump is back-geared 4 to 1 with cast steel and bronze gears and will do good work running at 800 to 900 revolutions per minute.

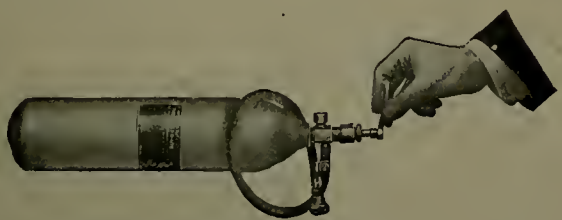
Will run either way. Cylinder bore 1½ in., stroke 2 in. Will fill a 3½ in. tire with 70 lbs. pressure in less than 2 minutes.

You can get any pressure from 2 to 200 lbs., and it is impossible to inflate a tire and not know the pressure, as the gauge registers the pressure in tire.

Friction wheel is made of the best special friction paper. All other parts are metal. No leather or packing used. Pistons are ground to a perfect fit. There is nothing about this whole pump that can possibly give any trouble.

A great deal of unnecessary tire expense is borne by motorists because they do not keep their tires pumped to the proper pressure. Motorists will get from 10 to 25 per cent. more service out of their tires if they are properly inflated.

2½ in. tires should be inflated with 50 lbs.
3 in. to 3½ in. tires should be inflated with 70 lbs.
4 in. tires should be inflated with 80 lbs.
5 in. tires should be inflated with 90 lbs.



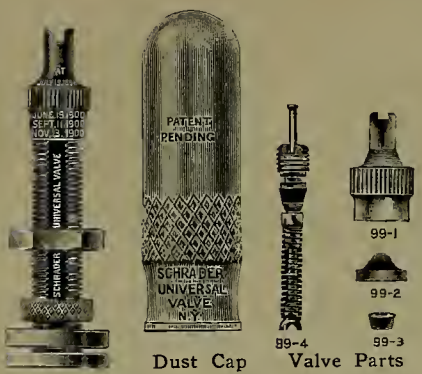
AUTO TIRE TANK

The Tanks are made from Seamless Drawn Steel, and contain five pounds of liquid carbonic gas at a pressure of one thousand pounds per square inch. They have a capacity for inflating from fifteen to thirty tires—depending on size of tire.

Two feet of hose, with connections, is furnished with each Tank.

Price, Copper Finish, complete; no brackets or gauge	$12.00
Recharges	1.50
Clamps, for attaching the Tank to the foot board, are an additional charge. Per pair..	1.00
Air Tubes. Sufficient to inflate 1.36 x 5 Tire, complete with valve and connection. Each	3.00
Extra Tube	1.00
Recharges	.20

Valves—Valve Parts—Valve Tools—Tire Lugs—Mats



Dust Cap Valve Parts

SCHRADER VALVES AND PARTS

Price List

	Each
No. 4. Valve for 2½ and 3 in. Tire.	$ .30
No. 3. Valve for 3 and 3½ in. Tire.	.50
No. 2. Valve for 4 and 5 in. Tire.	.50
No. 1. Continental Tire Valve.....	1.75
No. 99. 1 Cap. Per doz.....	.40
No. 99. 2 Cap Washer. Per doz.....	.25
No. 99. 3 Valve Seat Washer. Per doz.....	25
No. 99. 4 Core complete. Per doz. ..	.50
Dust Cap. Each	.10

TIRE LUG

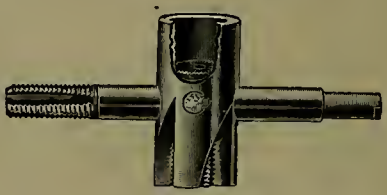
Rubber or leather covered.

No. 1. Rubber covered.....	$ .35
No. 2. Leather covered	.25

For clincher tires we especially recommend the rubber covered lug.

MATS

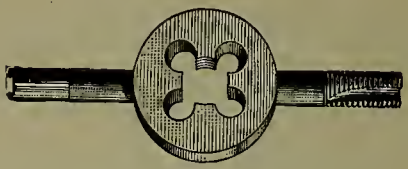
Number	Size	Price ea.
1	16″ x 27″.....	$1.50
2	18″ x 30″.....	1.75
3	20″ x 32″.....	2.00
4	22″ x 36″.....	2.50
5	24″ x 39″.....	3.00
6	30″ x 30″.....	3.25
7	26″ x 42″.....	3.50



NO. 1. 4 IN 1 VALVE TOOL

This tool will tap out, smooth off, thread the outside and unscrew the insides of Schrader valves. An addition to every repair kit.

	Each
4 in 1 Valve Tools.....	$ .30



NO. 2. 3 IN 1 VALVE TOOL

This tool is the same as the 4 in 1 except that it has not the part to smooth off the top of valve.

	Each
3 in 1 Valve Tools.....	$ .20

FLOOR MATS

Made in seven different sizes and of best Manilla fiber. Sizes are those most used in automobiles. ⅝″ thickness.

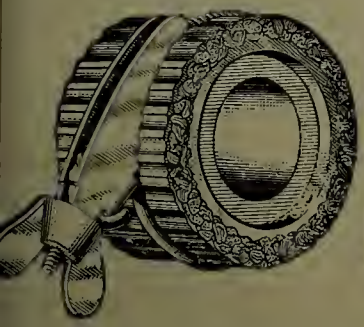
Pump Connections—Pump Leathers—Hose Bands

ACORN PUMP CONNECTION

Brass, nickel plated.
Price, each .....$ .20

Extra washers for Acorn .....$ .05

These connections are universal; adapted to any automobile tire, valve and pump. They are attached to the valve by simply pressing on and removed just as simply by pulling off. No screwing or unscrewing to be done. Absolutely air tight. The harder you pump the more perfect the connection.



SIMPLEX HOSE CLAMPS

A simple constructed hose clamp which can be adjusted from ½-inch to 2 inches. Used for radiator and steam hose. To fit hose of the following external diameter:

No. 3— ¾-1⅛ .....$ .10
No. 4—1 -1½ ..... .12
No. 5—1½-2¼ ..... .15

THE BOSS CONNECTION

This connection is used almost exclusively abroad and it is now adapted to American valves. It is air-tight and durable.
Price, each .....$ .15

NO. 3 PERFECTION

This connection fits upon the outside of all American valves.
Price, each .....$ .15

ESCO BRASS HOSE BANDS

No. 1, ⅜ inside diameter, 2 for .....$ .05
No. 2, 7-16 inside diameter, 2 for ..... .05
No. 3, ½ inside diameter, 2 for ..... .05

ESCO STEEL HOSE BANDS

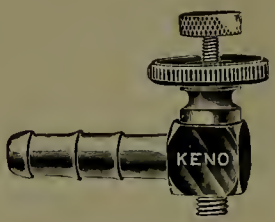
Size ⅝ to 1⅛ in. Each.$ .10
Size 1¼ to 1¾ in. Each. .15

SUNSET HOSE BAND

Diam.	Width	
¾"	x ½"	10c. each
1"	x ½"	15c. each
1¼"	x ¾"	20c. each
1½"	x ¾"	25c. each
2"	x ¾"	30c. each
2¼"	x ¾"	40c. each
2½"	x ¾"	45c. each
3"	x ⅞"	55c. each

KENO NO. 1

Right angle connection, brass body, air-tight coupler, with threaded steel point.
Price, each .....$ .15



KENO NO. 4

No. 4 same as No. 1 but has an extra screw to hold open the valve when pumping.
Price, each .....$ .25

PUMP LEATHERS

Sizes	⅞ in.	1 in.	1⅛ in.
Per doz.	$ .20	$ .24	$ .30
Sizes	1¼ in.	1½ in.	
Per doz.	$ .36	$ .40	

WASHERS FOR SKINNER PUMPS

Per set of 3.....$ .15

WASHERS FOR STAPLEY PUMPS

Per set of 5..... ...$ .25

Sunset Hose Band

Especially adapted for Radiator Hose. Made of spring brass and with interlocking clamp device held securely by strong steel bolt.

Vulcanizers

SHALER

THE FAMOUS ELECTRIC VULCANIZERS

PUBLIC GARAGE MODELS

TYPE C—(Exclusively for Outer Casings.)

Type C—In Operation.

Type C will mend any blow-out or tear in an outer casing that is practicable to mend and will fit any sized tire. It is 14 inches long.

To repair a blow-out with this vulcanizer is much simpler and cheaper than with the old steam vulcanizers, as the new fabric is placed on the **inside** of the tire, thus saving cutting away a lot of good rubber and requiring only about half as much fabric. This is possible because Type C fits right inside the tire bringing the heat directly against the new fabric. The repair is made **stronger** than any other part of the tire and the two weak joints that always occur on a job done by a sectional steam vulcanizer, which are caused by the necessary lapping of the canvas when the fabric is put on from the outside, are done away with.

Type C—Not in Operation.

The cost of running this vulcanizer is about 1½ cents per hour. Type B or D is used simultaneously with Type C to vulcanize the tread.

Type C, No. 71—Automatic Thermostat Heat Control—Alternating Current only.....$20.00

Type C, No. 72—Rheostat Heat Control—For Direct Current..... 25.00

MOTORCYCLE TIRE MODEL

Identical with Type C automobile tire vulcanizer with the exception that its size adapts it to taking care of motorcycle tires.

Type C, No. 75—Automatic Thermostat Heat Control—Alternating Current Only.....$20.00
Type C, No. 76—Rheostat Heat Control—For Direct Current..... 25.00

TYPE E OR "GANG"

Type E, 24 inches long, will vulcanize six tubes at a time or will mend a two foot slit at one setting. It is furnished with four patented clamps and four blocks for four sizes of repairs.

Type E, No. 91—Automatic Thermostat Heat Control—For Alternating Current.....$25.00

Type E, No. 92—Rheostat Heat Control—For Direct Current..... 30.00

GUARANTEE The C. A. Shaler Co. guarantee all Shaler Electric Vulcanizers manufactured by them to work perfectly, if directions are followed, and any machine giving out under normal and proper usage in consequence of defect in material and workmanship, if returned prepaid, will be repaired or replaced free of charge.

All repairs necessitated through carelessness or accident will be charged for at cost of labor and stock only. (Signed) C. A. SHALER CO., Waupun, Wis.

Vulcanizers

SHALER

THE FAMOUS ELECTRIC VULCANIZERS

Operate from ordinary city lighting current--When ordering, state voltage of your current and whether it is direct or alternating.

PRIVATE OWNERS MODEL

TYPE D (Portable)—For Alternating Current Only. (If you have access to Direct Current only, use Type B, described below.)

Type D—Operating on Inner Tube.

Type D, expressly for auto owners is compact—8x13 in., weighs less than 6 lbs. complete and has a concave face for vulcanizing any sized casing while still on the wheel, a flat face for any kind of tube work from mending a nail hole to splicing a tube, shelf for inner tube work, clamps for both tube and casing work, 15 feet of conducting cord, specially tested heat gauge, cement, para rubber and a full set of directions.

It has an automatic thermostat heat control so that there is absolutely no danger of burning the tire or breaking the heat gauge.

The patented heating unit conducts the heat evenly to every point of the repair so that it cannot be over-cured in one place and under-cured in another.

A six by three inch repair can be made at one setting and, by using our patented handle, the position can be changed with perfect ease while the vulcanizer is still hot so that any sized repair can be made.

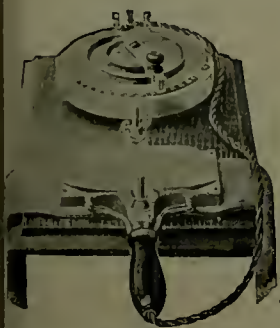
As there is no flame, the vulcanizer can be used indoors or out and in any position so that any part of tire can be reached.

Type D heats in seven minutes and costs ½ ct. per hour to operate.

Type D or B. Operating on Outer Casing.

Type D, No. 81—Iron Model **$12.50**
Type D, No. 82—Nickel-Plate Aluminum Model **15.00**

PUBLIC OR PRIVATE GARAGE MODEL



Type B (Portable)—For Direct or Alternating Current.

Type B is identical with Type D (see above description) except that it has a rheostat instead of a thermostat to control the heat, which makes it the **only** vulcanizer that will work on **both** direct and alternating current. It is designed especially to stand the hard, steady service of a public garage.

With Types B and C a garage or repair man can do any work that it is practicable to do on any automobile tire.

Type B, No. 51—Iron Model **$20.00**
Type B, No. 61—Nickel-Plate Aluminum Model **25.00**

TYPE BV—Valve Stem Attachment.

Special form heater for vulcanizing valve stems to inner tubes. Interchangeable with regular heater supplied with **Type B.**

Type BV, No. 52—Iron Model ..... **$ 8.50**
Type BV, No. 62—Nickel-Plate Aluminum Model **10.00**

Vulcanizers

HARTFORD STEAM VULCANIZER
For Repair Shops

Roadside repairs to tires or inner tubes should always be permanently vulcanized as quickly as possible. The Hartford steam vulcanizer is especially designed to take care not only of bicycle, motorcycle and carriage tires, but automobile tires of all sizes as well. It is operated by steam and is a simple, reliable, economical and durable machine for all repair work.

Moulds are furnished in all sizes to fit this machine.

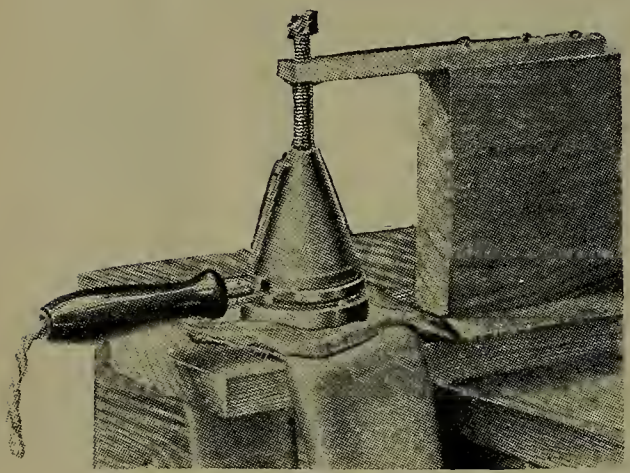
Prices upon application.

LITTLE WONDER VULCANIZER

Will save its cost many times in one season's run and anyone can operate it. It will vulcanize cuts, scratches and blisters. This Little Wonder Vulcanizer only weighs 3½ lbs. in aluminum, and should be in the carrying space of every motor car. It is very easy to operate and a repair of a bad cut in the outside casing can be made in 30 minutes, which would, if let run a few miles, cause much trouble. Price, including three shoes, one for tread and two for side of tire. When ordering state size of tire.

Iron Vulcanizer, complete, each $7.00

Aluminum Vulcanizer, complete, 4 lbs. 8.00



INDEPENDENT ELECTRIC VULCANIZER

This electric vulcanizer requires no skill to operate and has no delicate parts to get out of order; the winding is guaranteed if used on the voltage specified.

Each vulcanizer outfit consists of the following articles:

1 electric vulcanizer.
1 piece vulcanizing rubber.
1 piece emery cloth.
1 brush.
1 can vulcanizing cement.

Price Standard Voltage

110 volt..... $12.50
220 volt..... 13.50
Special Shoe for Repairing Outer Cases..... 2.50

THERMOMETERS
For All Vulcanizers
Each..... $ .60

Vulcanizing Material—Catching Rubber

RAW STOCK VULCANIZING RUBBER

No. 207—Per lb. $2.50
No. 515—Per lb. 2.25

For Inner Tube Repairs

No. 570—Per lb. $1.75

For Retreading Purposes

Carried in stock: 20-40-60 and 80 gauge. Put up in neat 1 lb. cartons. Also carried in bulk suitable for Repair Shop purposes.

FRICTION DUCK

No. 1. (9" widths) per lb..... $2.75
No. 2. (9" widths) per lb..... 2.25

Also carried in 36" width. Prices on application.

VULCANIZING CEMENT

Hartford

1 qt. cans, ea. $1.50
½ pt. cans, ea. ..... .60

Carried also in one gal. cans for repair shops.

INSIDE PATCHING RUBBER

Cured on one side for inner tube repairs.
Per lb. $3.50

PATCHING RUBBER

Cured pure gum Patching Rubber.
Per lb. $4.25

Supplied in ¼- ½- and 1-lb. rolls.

STOCKINET

For lining inner tubes.

Per lb. $2.00

When ordering state size of inner tube lining is required for, and we can supply the exact quantity necessary.

HARTFORD Repair Materials are prepared with every care. The best of material is none too good for making satisfactory repairs. HARTFORD vulcanizing material is used universally throughout the country by all the best repair shops and has long been recognized as the best.

Cements—Patches

M. & M. REPAIR KIT

Combination consists of one bottle of acid, one can of cement and two brushes.

¼ pint outfit	$1.00
½ pint outfit	1.25
1 pint outfit	1.50

Cement Only

¼ pint	$0.30
½ pint	.45
1 pint	.65

Acid Only

¼ pints	$0.40
½ pints	.50
1 pint	.75
1 gallon	3.50

HARTFORD CEMENTS

Special Auto

1 ounce tubes	$0.15
¼ pint cans	.40
½ pint cans	.60
1 quart cans	1.10

C. & L. SUNSET CEMENT

4 ounce tubes	$0.15
¼ pint cans	.25
½ pint cans	.40

Hartford and Sunset Cements are made from the finest Para rubber. These cements are the best that can be produced.

C. O. T. GUM-GUM

4-ounce tubes, each.....$0.50

One tube will repair 20 to 25 medium digouts.

HARTFORD PATCHES

No. 0—Size 2½ round. Each	$0.05
No. 1—Size 1½x2 inches, oval. Each	.05
No. 2—Size 2 x3 inches, oval Each	.07
No. 3—Size 2¼x5¼ inches, oval. Each	.10
No. 4—Size 3 x6 inches, oval. Each	.15
Box of 12 assorted	.75

VALVE BASE

Large	$0.30
Small	.20

HEALACUT SOLUTION

A heavy rubber solution made expressly for healing cuts and filling up digouts in outer casings.

4 ounce tubes, each.....$0.50

Matting

WHITE PYRAMID WITH BLACK BACK

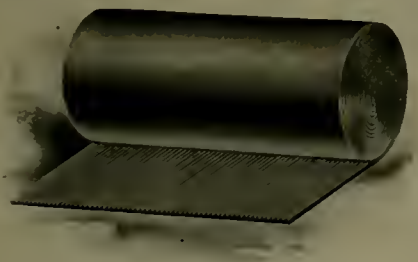
Per lb. .....$ .50

$\frac{3}{32}$" thick by 36" width. Approximate weight per sq. yd., 11⅓ lbs.

KNOB OR PEBBLE MATTING

Per lb. .....$ .50

$\frac{1}{8}$" thick by 36" width. Approximate weight per sq. yd., 11½ lbs. Strictly high-grade.



CORRUGATED MATTING

Good Quality Rubber

Per lb. .....$ .25

⅛" thick by 36" width. Approximate weight per sq. yd., 8 lbs.

ALUMINUM MOULDINGS

Illustrations above are three types of aluminum moulding to be used in connection with the Pyramid Sheet Aluminum.

No. 1. Flat oval, to be used where a flat edge of the pyramid sheet is to be fastened down.

No. 2. Beaded binding, for use where running boards or floor boards are to be covered. The hook fastens over the pyramid on the aluminum sheet, and the long member of molding fastens to the edge of the board.

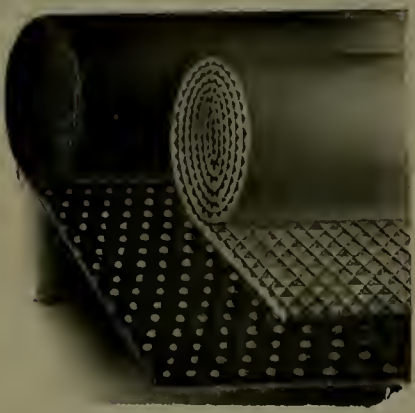
No. 3. "T" section, is used where joints occur in the flooring. The lower member of the moulding is attached to the edge of one of the boards and it covers the crack, making a perfectly finished floor, allowing no dirt or dust to sift through and makes a very handsome trim.

These mouldings are all furnished in twelve-foot lengths.

No. 1 Per ft. $ .08

No. 2 Per ft. $ .15

No. 3 Per ft. $ .20



PYRAMID RUBBER MATTING

White Pyramid Matting, A1 Grade

$\frac{3}{32}$" thick. Per lb. .....$ .75

Unquestionably the best rubber matting procurable for foot board, running boards or anywhere a firm footing is desired.

Approximate weight per sq. yd., 12⅔ lbs. Comes in 36" width.

PYRAMID ALUMINUM MATTING

20 Gauge, per sq. ft .....$ .70

Pyramid Aluminum is made from a special composition of aluminum so hard in finish that it has great wearing qualities. The plain aluminum sheets are rolled through a special patented set of rolls, which gives a pyramid effect similar in appearance to the finest heavy white rubber matting. After being rolled to form, the sheets are submitted to a treatment that gives them a beautiful, soft gray finish, very pleasing to the eye and of great durability.

Pyramid Sheet Aluminum is made in two gauges, 20 B. W. G. and 24 B. W. G.

The sheets are 36 x 84 inches.

Harris Oils

These are the oils that we recommend **first, last** and **all** the time, not with a selfish motive because we are Pacific Coast agents, but solely for **your own good interest and good profit,** for we **know Harris Oils** are the **very best quality obtainable** — and that they fully meet every demand for **perfect** automobile, motor-boat and motorcycle **lubrication** and are the **most economical** you can use.

Harris Oils have been **tested** and **proved** on road and track. There is nothing to doubt about their **efficiency** and **economy.** They retain their body and superior lubricating qualities at all times and under all conditions, whether climatic or artificial. Their freedom from deposit on cylinder and spark plugs and greater mileage per gallon insures smoother running—more power with less waste—least wear—and longer life to all moving parts, and no copious quantity is required, as a little goes a long way and **every drop counts.** They eliminate oil troubles and reduce oil and repair bills to a minimum.

Harris Oils have proved consistent winners of **every** important racing event held in this country—and in nearly every instance established world's records, the more notable of which are:

New York, N. Y.—Vanderbilt Cup;
Crown Point, Ind.—Indiana Cup, and Cobe Trophy;
Ascot Park, Cal.—150-mile World's Record;
Santa Monica, Cal.—Ferris Cup;
New Orleans, La.—100-Mile World's Record;
Indianapolis, Ind.—25 and 15-mile World's **Record;**
Atlanta, Ga.—20 and 5-mile World's Record;
Ormond Beach, Fla.—L Mile World's Record (1 mile in 0.282 sec.)
Etc., etc., etc., etc.

Meeting the exacting conditions of racing is one of the many reasons why **Harris Oils** are of surpassing excellence for the every-day motorist's use. **Harris Oils** are not the lowest in price, but they are the **best value obtainable.** You may beat the price, but yon can't beat the **quality.** As you value the keeping of your automobiles, motor-boats and motorcycles **perfectly lubricated,** we urge you to give **Harris Oils** a trial.

Harris Oils are put up in neat 1 and 5-gallon cans with remountable spout, and in barrels. **All** the 1 and 5-gallon cans are filled at the refinery and not refilled from barrels, as is the case with a great many other oils. For grades and prices see next page.

Use the Best for the Best Results

HARRIS

TRADE MARK-REG. U. S. PAT. OFF.

OILS

HARRIS

TRADE MARK-REG. U. S. PAT. OFF.

OILS

HARRIS OILS—GRADES AND PRICES

Harris "Light" Oil, on account of its high fluidity and low cold test, is especially adapted for high compression engines and use in cold weather. It flows readily between close fitting surfaces, regardless of pressure, temperature or speed of moving parts—possesses good lubricating body and is lasting.

Harris "Medium" Oil is the grade adapted to the majority of engines; has high fire test; will not char; lubricates perfectly and leaves no residue; great mileage durability; winner of Vanderbilt Cup. When in doubt decide on "Medium" grade.

Harris "Heavy" Oil is same grade as "light" and "medium" but higher fire test and more viscous; aids to hold compression when piston is loose fitted or worn; unequaled wearing quality. Excellent for crank cases.

All one price per gallon in quantities as follows

1 gal. can	5 gal. can	Barrel
(12 can case)	(2 in wood case)	(approx. 50 gal.)
85c per gal.	$4.00	60c per gal.

Harris Super Heated Steam Cylinder Oil is a very high grade steam engine oil; cannot be surpassed for such cars as the "Stanley" and "White Steamers"; high fire test; maintains its superior lubricating quality and durability under the highest temperatures.

1 gal. can	5 gal. can	Barrel
(12 can case)	(2 in wood case)	(approx. 50 gal.)
$1.00 per gal.	$4.50	70c per gal.

Harris "Dark" Trans-Compound is a heavy oil reduced to grease consistency; exceptional high grade lubricant for transmissions, cams, etc.; impervious to heat, cold, water, or steam; contains nothing injurious to finest metal surfaces; unexcelled lubricating efficiency and durability.

Harris "Light" Trans-Compound is a solidified oil and similar to the "dark" grade except it is light in color and not so firm consistency; excellent for transmissions, but we, however, recommend the "dark" grade as the superior lubricant.

Packed in tin cans and both same price per pound in quantities as follows :

5 lb. can	10 lb. can	25 lb. can	50 lb. can	Barrel (approx. 400 lbs.)
$1.00	$1.75	$4.00	$7.50	$0.12 a lb.

Harris Motor Grease is similar in properties and manufacture to the "light" trans-compound, but it is much heavier and is intended for use in compression cups.

Harris Graphite Grease is a high lubricating grease with the addition of a finely pulverized flake graphite; particularly recommended for chains and gears.

Packed in tin cans and both same price per pound in quantities as follows:

5 lbs.	10 lbs.	25 lbs.	50 lbs.
$1.00	$1.75	$4.00	$7.50

All the above constantly in stock.

U. S. Graphite

U. S. GRAPHITE WOOD GREASE

1-lb. cans. Each.....$ .25
5-lb. cans. Each..... 1.00
10-lb. cans. Each..... 1.90

For enclosed auto gears. Turns that grinding metallic ring always present with swiftly revolving gears into a soft musical hum—it deadens noise, minimizes friction, wear and tear and assures the utilization of all power generated.

U. S. GRAPHITE CUP GREASE

1-lb cans. Each .....$ .25
5-lb. cans. Each 1.10
10-lb. cans. Each 1.90

For General Lubrication

Made in four consistencies. **Extra Soft** for Transmission and Enclosed Gear; **Soft**, for Spring or Compression Cups; **Medium**, adapted to use in Screw Cups; **Hard**, for heavy bearings and where high melting point is essential.

U. S. GRAPHITE AUTO-GEAR LUBRICANT

1-lb. cans. Each .....$ .25
5-lb. cans. Each..... 1.10
10-lb. cans. Each 1.90

For enclosed Automobile Gears. Recommended for the lubrication of differential or speed-changing gears. Dripless and does not ooze out of case.

U. S. No. 205

LUBRICATING GRAPHITE

½-lb. cans .....$ .20
1 -lb. cans ..... .30
5 -lb. cans 1.25

No. 205 Graphite is an air-floated powder free from grit. Can be fed through the lubricator and is beneficial to cylinders.

U. S. MEXICAN GRAPHITE AUTO-LUBRICANT

1-lb. cans. Each .....$ .35
5-lb. cans. Each 1.50
10-lb. cans. Each 2.75

This grease is designed for the lubrication of transmissions or speed-changing gears, and is especially desirable for gears of the planetary type. It may be introduced by means of oil syringe or force pump.

U. S. GRAPHITA

8-oz. tubes. Per doz. ..$4.20
1-lb. cans. Each ..... .45
5-lb. cans. Each 2.00
10-lb. cans. Each 3.50

U. S. PIPE CEMENT

For Spark Plugs, Tank Caps, etc.

Suited to all kinds of joints, threaded or flanged. Connections on which it is used can be easily detached at any time without the slightest injury to threads or tools, for unlike red lead it never "sets hard." Prevents rust and assures an absolutely air and water tight joint.

U. S. Pipe Cement

Prices

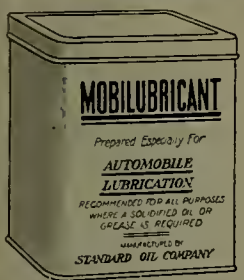
1-lb. cans. Each .....$ .20
5-lb. cans. Each ..... .90
12½-lb. cans Each 2.00
25-lb. cans. Each 8.00

Oils and Greases—Graphite

ALBANY GREASE

For gear cases, axles and chains. Never hardens, never dries, never melts, never runs, never changes, never disappoints, but always remains the same under all circumstances and conditions. Preserves the gears and axles, saves wear and tear on the chains and all other parts of the machine, and guarantees the highest attainable speed. Does not drip, splash or waste; self-acting, runs only while shaft is in motion.

5-pound can $1.25
10-pound can 2.50
25-pound can 5.50



MOBILUBRICANT

1-lb. cans. Price, each. $0.25
5-lb. cans. Price, each. 1.00
10-lb. cans. Price, each. 1.75

NON-FLUID OILS

K-00

For sliding gear transmissions, etc.

K-00 Special

For transmission gear cases. Does not leak or throw out, a little lighter than K-00.

K-000

For use in grease cups, planetary transmissions, differentials, etc.

Price List

3-lb. cans, each..... $0.75
5-lb cans, each..... 1.25
10-lb. cans, each..... 2.00

DIXON'S No. 688 LUBRICANT

For enclosed transmissions, composed of kiln-dried sawdust, pulverized graphite and high-grade lubricants.

1-lb. cans. Price, each. $0.25
5-lb. cans. Price, each. 1.00
10-lb. cans. Price, each. 2.00

DIXON'S No. 677 GRAPHITE LUBRICANT

A graphite grease of light body, taking the place of oil.

1-lb. cans. Price, each. $0.35
5-lb. cans. Price, each. 1.50
10-lb. cans. Price, each. 2.50

DIXON'S MOTOR GRAPHITE

Dixon's Motor Graphite is for general use, for gas and steam cylinders, sprockets, chains, gears, etc. May be used dry or mixed with oil.

½-lb. cans, each..... $0.35
1-lb. cans, each..... .50
5-lb. cans, each..... 2.00

DIXON'S No. 632 FLAKE

Pure flake graphite. Unrivaled for smoothness.

Price List

1-lb. cans. Price, each. $0.30
5-lb. cans. Price, each. 1.25
10-lb. cans. Price, each. 2.50

DIXON'S No. 676 GREASE

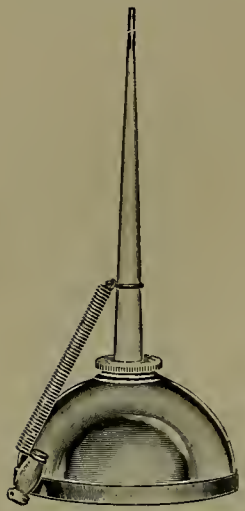
Particularly valuable for lubricating bearings, etc., that are exposed to great heat; will not run.

1-lb. can. Price, each. $0.35
5-lb. can. Price, each. 1.50
10-lb. can. Price, each. 2.50

DIXON'S No. 692 GRAPHITOLEO

8-oz. collapsible tubes, each $0.50
1-lb. cans. Price, each. .55
5-lb. cans. Price, each. 2.50
10-lb. cans. Price, each. 4.50

Oil Cans



No. 14A
SPRING CAP OILERS
Steel Copperized

The cap prevents oil running over tool kit. Half pint, 5 in. nozzle.

Each $0.50

No. 2
ZINC OILERS

This is a light and strong oiler with straight spout and spring bottom. 3 in. diam., 4 inch spout.

Price each $0.10

"FUNNELKAN"
OILERS

Combination oiler and funnel. Non-leakable, occupies little room. A very handy article for the tool box. Three-inch diam., 5-inch straight spout.

Price each $0.25

Copperized
PUMP OILER

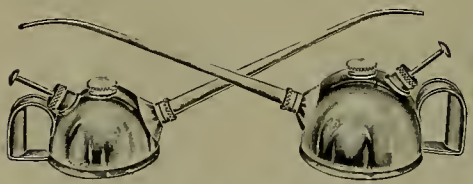
No. 402—1 pt. 3 in. diam. 10 in. spout.

Price each ... $1.50

"KOMPAKT" OILERS

Occupies little room in tool box. Capacity 1 pint.

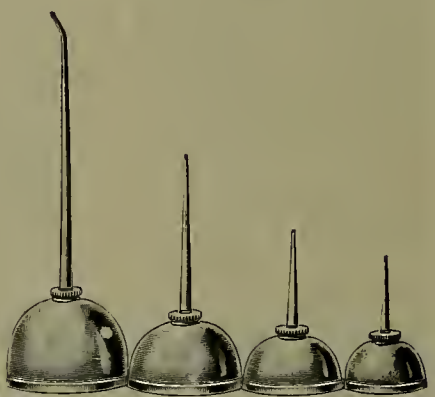
Price each..... $0.50



AUTO PUMP OILERS

No.	Capacity	Diam.	Spout	Price Each
802—Copper...	½ pt.	3¾ in.	9 in.	$1.25
804—Copper...	1 pt.	4¼ in.	9 in.	1.50

All spouts from 3 to 9 inches are interchangeable and will fit any oiler.



COPPERED STEEL OILERS

No.	Capacity	Diam.	Spout	Price Each
No. 12.....	¼ pt.	2¾ in.	3 in.	$0.25
No. 13.....	⅓ pt.	3⅜ in.	3 in.	.35
No. 14.....	⅓ pt.	3⅜ in.	9 in.	.40
No. 14B.....	½ pt.	3¾ in.	9 in.	.50

All spouts fro· 2½ to 18 inches are interchangeable and will fit any oiler.

Funnels—Measures—Drip Pan—Emergency Cans

EXTRA HEAVY EDGE BANDED WITH RED STRIPE

No. 1. Runabout, size 35 in. x 47 in. Ea. **$3.00**
No. 2. Touring Car, " 35 in. x 95 in. Ea. **5.00**

AUTO SAFETY DRIP PAN

Made of heavy galvanized steel with rim turned over a heavy rod leaving top surface of pan without seam or solder, the only correct manner of making a Drip Pan.

THE SUNSET 5-GALLON GARAGE MEASURE

5-gallon capacity ..... **$2.50** each

With self-contained funnel. It is made of very heavy steel and heavily galvanized.

UTILITY MEASURE

These measures are extra heavy, well made, accurate and convenient. The handiest thing made to have around an automobile.

Can be used for either oil or gasoline.

Made in sizes ½ pt. to 1 gal. Heavy polished tin.

UTILITY MEASURES
Price List

¼-pt. size.	Price, each.....	$ .15
1-pt. size.	Price, each.....	.20
1-qt. size.	Price, each.....	.25
½-gal. size.	Price, each.....	.35
1-gal. size.	Price, each.....	.50

AUTOMATIC FUNNEL

	Capacity	Diameter	Height	Each
No. 120.	2 qt.	8½ in.	9½in....	$1.50
No. 140.	4 qt.	9¾ in.	11 in....	1.75
No. 180.	8 qt.	12½ in.	12½ in....	2.00

Simply lift the Funnel from the filling hole in the tank or can and no more gasoline can run through the spout. A necessity to safety and economy.

TOURIST OIL AND GASOLINE EMERGENCY KIT

Size, 9x9x10¾.
Each **$3.50**

Consists of a fine black enamel steel case, similar in appearance to a tool box, which may be instantly strapped to the running board. It contains inside two-special enameled cans (9 in. x 4¼ in. x 9¾ in.) having a capacity of over 1½ gallons each, with special extension pouring spout and filler cap. Furnished with strap complete.

COMBINATION MEASURE

The Combination Measures and Funnels are made of extra heavy tin, and are one of the handiest and most convenient articles ever made. COPPER PLATED.

COMBINATION MEASURES

½ Pt.	Price, each.....	$ .45
1 Pt.	Price, each.....	.55
1 Qt.	Price, each.....	.70
½ Gal.	Price, each.....	.95
1 Gal.	Price, each.....	1.30

Funnels

Dover Funnels are Heavily Copper-Plated

DOVER FUNNELS

	Capacity	Diameter	Height	Each
No. 20.....	2 qt..	8½ in..	9½ in....	.75
No. 40.....	4 qt..	9¾ in..	11 in....	1.00
No. 80.....	8 qt..	12½ in..	12 in....	1.25

These Funnels are especially designed for filling Auto Gasoline Tanks. They have hoops around top to prevent slopping and besides have a fine brass wire strainer.

OVAL TOP PATTERN

	Length	Width	Height	Each
No. 01.	1 pt., 6½ in.	x 3 in.	x 6¾ in..	$ .30
No. 02.	1 qt., 8 in.	x 3½ in.	x 8 in..	.50

These Funnels are made especially to carry on Auto, oval shape, and occupy small space.

OVAL PATTERN

	Size of Top	Height with-out Spout	Each
No. 26.	9½x4 in.	7 in.	$1.40
No. 27.	8½x3½in.	6½in.	1.10

With movable inside hoop for chamois, detachable spouts and fine brass strainers.

OFFSET SPOUT

For No. 26 and No. 27 Oval pattern.
Price, each .....$ .50

GARAGE FUNNEL

		Each
No. 4000.	4 qt., 9¾ in. dia. top.	$2.00

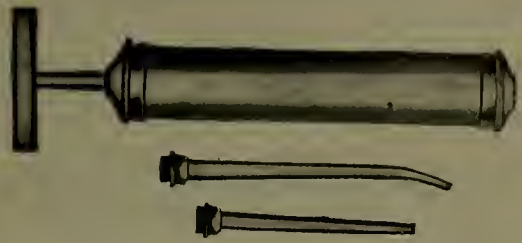
This Funnel was especially designed for filling Auto Gasoline Tanks for such machines that have their gasoline tanks located at the rear or under the body in such a way that a regular funnel is inconvenient to use. It has all the features of our regular funnels, which have made them so popular.

ROUND PATTERN

	Dia. Top	Height	Each
No. 59	5 in.	5¼ in.	$ .35
No. 60	10 in.	12 in.	1.05
No. 64	10 in.	12 in.	1.35

Numbers 60 and 64 have removable screw spouts which, together with the movable joint, can be packed into a very small space.

Oil and Grease Guns



EVERHANDY COMBINATION OIL AND GREASE GUN

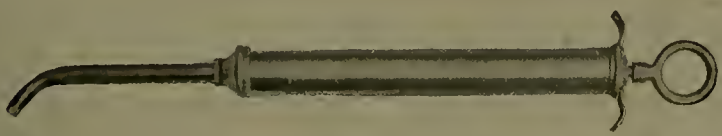
No. 600—Diam. barrel 1¼ in.; length 6¼ in.; length spout 5½ inch.

Price each..... $1.00

FOWLER GREASE GUN

A new and very desirable grease gun with combination quick-acting and screw plunger. Furnished with grease and oil tips that can be pushed through the barrel or screwed as desired. Barrel 8x2 inches, tips 3½ inches.

Price each..... $3.00



No. 12 GREASE GUN

Price each..... $0.75

Size 8x1 in. Tip 4½ in.

No. 11 OIL GUN

Price each..... $0.60

Size 8x1 in. Tip 4½ in.

The best medium price guns. Made of solid brass, heavy gauge barrels with leather washers and finger rests.

N. F. O. OIL GUN

N. F. O. Oil Gun. **Price** each.....$1.25
Extra curved tips, 3 in., each..... .20
Extra curved tips, 6 in., each..... .25

Size 1¼ x 7 in.

No. 10 OIL GUN

Price each.....$0.50

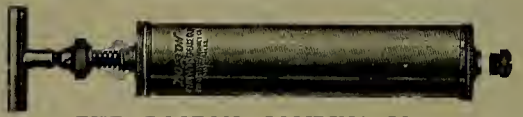
Size 8x1¼ in. Tip 5 in.

B-Line Oil Guns

B-Line Oil Guns are solid, substantial, **all** metal guns. Made of heavy seamless brass tubing, with **metal** plunger ground to fit **perfectly.**

The fit of the metal plungers is so perfect that any of these guns may be used as an oil carrier. Simply fill them with oil, screw on the plug cap furnished with each, and unscrew the piston bar.

"HANDY GUNS FOR UNHANDY PLACES"



THE BOSTON COMBINATION

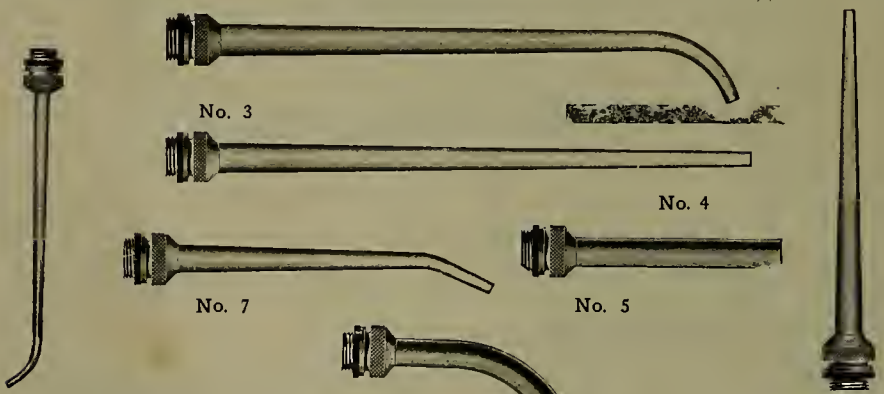
The Boston Combination Oil and Grease Gun handles equally well heavy greases, oils or gasoline. Lock nut on piston moves freely with piston unless engaged by the thread at top of barrel. In this position the piston is driven forward by screw motion and exerts a pressure that will handle the heaviest greases.

			Price each
Boston Combination	3 oz.	4x1½	$3.00
Boston Combination	5 oz.	6x1½	3.50
Boston Combination	8 oz.	8x1½	4.50
Boston Combination	10 oz.	10x1½	5.00
Boston Combination	14 oz.	8x2	5.50
Boston Combination	18 oz.	10x2¼	6.00

THE BOULEVARD

This gun has a metal plunger, ground to fit perfectly. Seamless brass tubing; nothing to get out of order. Handles gasoline, light or heavy oils, and light greases.

			Price each
Boulevard	3 oz.	4x1½	$2.00
Boulevard	5 oz.	6x1½	2.50
Boulevard	8 oz.	9x1½	3.25
Boulevard	10 oz.	10x1¾	4.00
Boulevard	14 oz.	8x2¼	4.50
Boulevard	18 oz.	10x2¼	5.00



A TIP FOR EVERY REQUIREMENT

	Each		Each
No. 1—5-inch straight oil tip	$0.25	No. 5—3-inch straight grease tip	$0.25
No. 2—5-inch curved oil tip	.25	No. 6—3-inch curved grease tip	.25
No. 3—7-inch straight oil tip	.35	No. 7—4-inch curved tip for primes	.25
No. 4—7-inch curved oil tip	.35	No. 8—9-inch curved grease tip	.45

Oil and Grease Guns, Dash Oil and Air Pumps

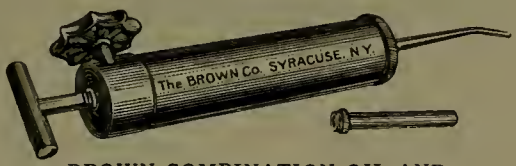
PIONEER GREASE GUN

Price $1.50

Size 1¼x10 in. Spout 3 in

Unexcelled for shop use; heavy and strong. Spout fits in a ball socket and is adjustable to any angle.

Size 1¾x8 in. Seamless Brass Tubing.



Capacity 8 ozs. Ground Brass Piston.

BROWN COMBINATION OIL AND GREASE GUN

Price $3.00

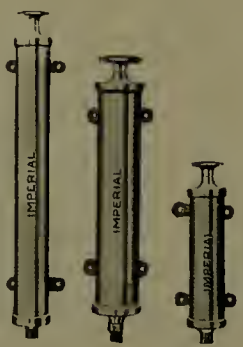
For oil use T handle. For heavy grease turn hand wheel.

AUXILIARY OIL PUMP

Polished Brass

A small compact dash-board oil pump to use when oil supply is interrupted or cut off. Cylinder 4x1½ inches, fitted for ⅛-inch pipe. It draws the oil on the up stroke and discharges it on the down stroke.

	Each
No. 1D.....	$5.00
No. 7D, less glass....	4.50



DASH PUMP

Air or Oil

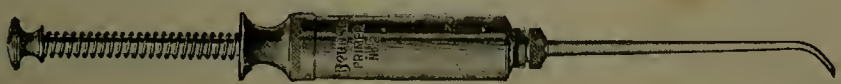
Polished Brass

⅛-inch iron pipe size, fitted with check valve.

	Barrel	Each
No. 2D—	5x1¼ in...	$4.00
No. 3D—	8x1½ in...	5.00
No. 4D—	10x1¼ in...	5.00

DASH OIL AND AIR PUMPS

These pumps can be placed on dash or at seat of automobile within convenient reach of the operator, and are used for putting an air pressure on the gasoline tank to force a supply of gasoline to the carburetor when ascending hills or when gasoline tank is located below the level of carburetor. They may also be used for the purpose of filling the oil chamber of oiling system, or pumping oil directly to the crank case of the engine.



THE BOURSE GASOLINE PRIMER

This gun will help you start your engine. It is self-filling. Has a perfect fitted metal plunger. Tip made of seamless tubing, tapered at point to throw fine, strong jet of gasoline.
Price, in polished brass..... $1.75

Mechanical Lubricators

McCORD LUBRICATOR

The McCord Force Feed Lubricator is of a simple and compact form. Each pump consists of two plungers, the primary one receiving the oil from the reservoir and delivering it to the sight feed from whence it is in turn drawn by the secondary plunger and delivered to the point of lubrication through the outlets at the bottom of reservoir.

McCORD LUBRICATOR

The mechanism of the Lubricator is simplicity itself, the pumps being arranged in a battery of from one to twenty or more, as desired, and as they occupy a very small space, the maximum oil capacity is secured.

All tanks are 3½ inches wide and 4½ inches high.

MODEL "R" McCORD LUBRICATOR

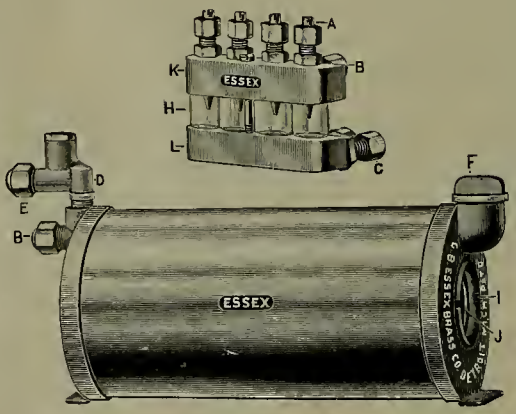
Price List

4 feed, 3½-pint capacity, 7 inches long. Price, each	$30.00
6 feed, 4½-pint capacity, 9 inches long. Price, each	37.00
8 feed, 5½-pint capacity, 11 inches long. Price, each	45.00
10 feed, 6½-pint capacity, 13 inches long. Price, each	52.00
Extra Reservoir Glasses. Price, each	.50
Extra Sight Feed Glasses (for Model "M"). Price, each	.50

When ordering this oiler, kindly advise us whether you wish end or rear drive, and right or left end, also if you wish the lugs on the rear or the bottom; also ratchet drive.

ESSEX OILER

The Essex Automatic Multi-feed Oiler, latest style, with Type "A" reservoir insures perfect lubrication of an automobile at all times. Having once adjusted, all the attention necessary is to fill the reservoir with oil occasionally. Standard equipment for cars with engines under body. Used extensively on 2-cylinder Maxwells and many 4-cylinder machines.



ESSEX OILER

The sight feeds are to be attached on dash, while the reservoir is placed under the hood, which will make your car look neat and clean at all times, as there is no slopping of oil over the mat. This lubricator is the finest oiling device on the market for 4-cylinder cars. It stops and starts with the motor, perfectly automatic.

ESSEX OILER

Price List

Sight Feeds Only

2 feeds	$2.50
3 feeds	3.50
4 feeds	4.50
6 feeds	6.50
8 feeds	9:50

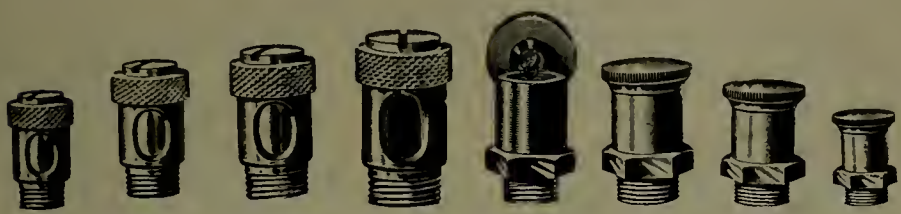
Reservoirs Only

1-quart Reservoir	$4.25
2-quart Reservoir	5.50

Sight Feed Glasses

Extra Sight Feed Glasses	$0.10
Extra Sight Feed Washers	.05

Automobile Oil Cup and Glasses



1 2 3 4 4 3 2 1

Style "N" Oil Cups Style "D" Oil Cups

These oil cups are made of brass, nickel-plated. Style "N" fills from the side by turning cap either way. Style "D" fills from top. Cap can be tipped over at any point, thus enabling one to fill it from any direction. See open-view cuts.

	Standard Diam. Inch	Pitch Thread	Optional Thread Pipe	Cap., Inch Diam. of	Price Nickeled Each
No. 1	¼	32	..	⅜	$0.15
No. 2	5/16	32	..	⅜	.15
No. 3	⅜	24	..	½	.15
No. 4	7/16	24	..	9/16	.20

Lunkenheimer Paragon Oiler

"PARAGON" GLASS BODY SIGHT-FEED LUBRICATOR

Price List

Size, number	1½	2	3	4	5
Outside diameter of glass, inches	1¾	2	2¼	2½	3
Height of glass, inches	1⅝	1⅞	2⅛	2⅜	3
Capacity (oil), ounces	1½	2½	4	5	10
Shank pipe thread	¼	⅜	⅜	⅜	½
Finished brass, each	$2.00	$2.80	$3.50	$4.00	$5.40

"SENTINEL" SIGHT-FEED GLASS OIL CUP

Price List

Number	0	1	1½	2	3	4	5	6
Extreme outside diameter of cup, inches	1½	1¾	2	2¼	2½	2¾	3¼	3¾
Extreme height of cup over all (lever up), in.	5¼	5⅝	5⅞	6¼	6⅞	7⅝	8½	9
Outside diameter of glass, inches	1¼	1½	1¾	2	2¼	2½	3	3½
Height of glass, inches	1⅛	1⅜	1⅝	1⅞	2⅛	2⅜	3	4
Capacity, ounces	⅝	1	1½	2½	4	5	10	18
Shank pipe thread, inch	⅛	¼	¼	⅜	⅜	⅜	½	½
Finished brass, each	$1.25	1.35	1.50	1.65	1.85	2.25	3.00	4.00

Lunkenheimer Sentinel Oiler

Cylindrical Oil Cup Glasses

CYLINDRICAL OIL CUP GLASSES

Price List

Number	000	00	0	1	1½	2	3	4	5	6	8
Outside diameter	1	1⅛	1¼	1½	1¾	2	2¼	2¼	3	3½	4¼
Height	⅞	1	1⅛	1¾	1⅝	1⅞	2⅛	2¾	3	4	5
Price	$0.10	.12	.16	.20	.20	.25	.30	.50	.70	1.30	3.00

SIGHT-FEED GLASS TUBES

Sizes ¼-in. to 7⅛-in., in 32ds, cut to length.

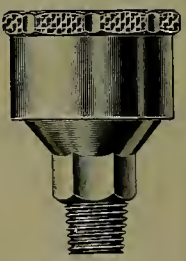
Price, per cut $0.25

Grease Cups

EMPRESS RATCHET GREASE CUPS

Empress Ratchet Grease Cup

The new Empress Ratchet Grease Cups are fitted with lugs on the lower half, making them easy to fill. For places where there is excessive vibration the Empress Ratchet Grease Cups are especially valuable, as the caps can never be jarred off.



Empress Plain Grease Cup

EMPRESS PLAIN GREASE CUP

The Plain Grease Cups are fitted with leather washers, thereby preventing the cap from jarring off and the grease from leaking out.

Price List of Empress Grease Cups

Number	000	00	0	1	2	3
Inside diameter, inches	¾	1	1¼	1½	2	2½
Shank pipe thread, inches	⅛	⅛	¼	¼	⅜	½
Capacity (grease), ounces	¼	½	¾	1	2	3½
Finished brass, each—Rachet	$0.30	$0.35	$0.40	$0.50	$0.65	$1.10
Finished brass, each—Plain	.20	.25	.30	.35	.45	.60

"IDEAL" GREASE CUP

Ideal Grease Cup Exterior View

This is a first-class, cast brass, highly finished, automatic compression cup.

As shown in sectional view, it is provided with a leather packed plunger (insuring a tight joint and smooth working), which is easily raised when the cup requires recharging with grease.

Spring and plunger are conveniently controlled by a thumb-nut, which is provided with an automatic lock arrangement to prevent its jarring from position on the stem.

As a high-grade cup of superior design and perfect regulation of feed the "Ideal" has no equal.

Ideal Grease Cup Sectional View

"Ideal" Price List

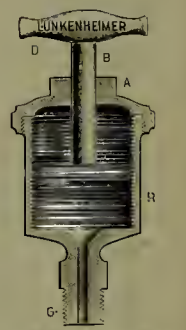
Number	00	0	1	2	3	4
Inside diameter, inches	⅞	1¼	1½	2	2½	3
Extreme outside diameter, inches.	1⅜	1¾	2	2⅝	3¼	3⅝
Extreme Height over all raised Cup open, inches	3¼	4⅝	5¼	6½	7½	8¾
Shank pipe thread, inches	⅛	¼	¼	⅜	½	½
Capacity (grease), ounces	⅓	1	1½	3	6	10
Finished brass, each	$1.00	$1.50	$1.75	$2.25	$3.00	$4.20

SCREW-FEED "MARINE" GREASE CUP
Brass

"Marine" Grease Cup Exterior View

As the name implies, the "Marine" type of grease cup is designed more particularly for use on marine engines. It is also found suitable for many other purposes where a screw feed is desired, or it is found necessary to force the grease some distance to the parts to be lubricated.

The body of this cup is made very heavy in order to withstand rough usage, and we guarantee it to be a thoroughly well made and substantial article in every way.



Marine Grease Cup Sectional View

"Marine" Price List

Number	00	0	1	2	3	4
Inside diameter, inches	⅞	1¼	1¾	2	2⅝	2¾
Extreme outside diameter, inches.	1 1/16	1¾	2	2⅝	3 3/32	3⅝
Extreme height over all (plunger raised, cup open), inches	3 9/16	4⅝	5 11/16	6 7/16	7 15/16	8 7/32
Shank pipe thread, inches	⅛	¼	¼	⅜	½	½
Capacity (grease), ounces	⅓	1	1½	3	6	10
Finished brass, each	$1.00	$1.20	$1.60	$2.00	$2.80	$4.00

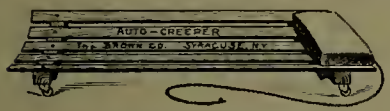
Turn Tables—Auto Creeper—Steering Wheels—Starting Crank Holders—Steering Wheel Covers

Patented Sept. 28, '04. Oct. 11, '04. Jan. 17, '05 Feb. 16, '05

THE FOUR-WHEEL CHICAGO PORTABLE TURN-TABLE

Each truck is provided with a steel, concaved center so arranged that it will retain one wheel of an automobile. Two complete trucks (one set) are required in turning an automobile, one under each of the two front or rear wheels, as occasion may require.

Price, per set of two.....$14.00



AUTO CREEPER

An appealing device to those who have ever been compelled to suffer the annoyance, dirt and grease while lying flat on the back under a motor car. All advantages of a pit with the cost cut out.

Price, each $3.00

WHEEL GRIP

Indispensable for safety and thorough control. Made in red and black rubber.

Price, each $3.00

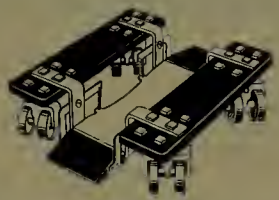
STARTING HANDLE HOLDER

Consists of a stout adjustable loop with a leather socket attached to the end. Keeps the handle clean and prevents it from swinging.

THE NEW THREE-CLUSTER ALL-METAL WEBER-PORTABLE TURN-TABLE

This new Truck consists of one piece of malleable iron with only three clusters of wheels. It takes up less room and is more easily operated than any other truck on the market.

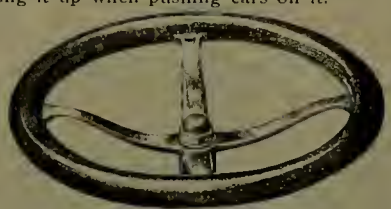
Price, per set of two, three-wheel....$15.00



SKINNER TRUCK

Price, per set of two.....$16.00

Inclined running board is so arranged that it hangs clear of floor when being pushed about, yet locks to floor by the weight of auto wheels when in use, obviating the necessity of holding truck or tipping it up when pushing cars on it.



STEERING WHEEL

This Steering Wheel is made of high polished brass center and rosewood stain rim. Size of Hub, 1⅛ inch.

Size of hole ⅞ inch with ¼ inch key seat.

No. 24.	14 inch.	Price each.....	$3.75
No. 25.	15 inch.	Price each.....	3.75
No. 26.	16 inch.	Price each.....	3.75
No. 27.	18 inch.	Price each.....	4.50

Price, each $0.50

Gasoline Storage Outfits

Especially Recommended for Private Garages

TOKHEIM GASOLINE PUMP

$42.00 for a "drain-back" pump that "pumps both ways" and a 65-gallon steel storage tank. A thoroughly reliable, guaranteed outfit at a price so low that you cannot afford to be without it.

It pays for itself—with it you can purchase your gasoline at wholesale, thus saving enough to pay for the outfit.

The pump is constructed throughout from rust-proof materials and has extra heavy brass cylinder and brass valves. Is very rapid in operation, discharging five gallons in less than a minute. Has a special patent priming chamber and is guaranteed to retain priming constantly and to draw oil quickly regardless of distance between pump and tank. Has been used for five years and never failed. When through pumping push down pump handle, which trips cylinder valves and drains back all surplus oil in pump, pipe and hose. "IT PUMPS BOTH WAYS." The Auto tank can also be drained.

Outfit consists of tank and pump with ¾-inch hose connection brass faucet, locking device and lock for pump handle, 16 gauge galvanized steel tank, gauge rod to show approximate amount on hand. We do not furnish the pipe or the hose. For connecting pump to tank, 1-inch galvanized pipe is used. For the tank fill pipe and the filling vent pipe, 1¼-inch galvanized pipe is used. For these pipes we furnish a set of heavy interlocking galvanized iron caps with padlocks for same. The entire device guaranteed for three years and new parts will be furnished free of expense for any parts that may prove defective during that time.

1 bbl. 65 gallon capacity outfit.	Price complete	$42.00
2 bbl. 120 gallon capacity outfit.	Price complete	50.00
3 bbl. 180 gallon capacity outfit.	Price complete	60.00

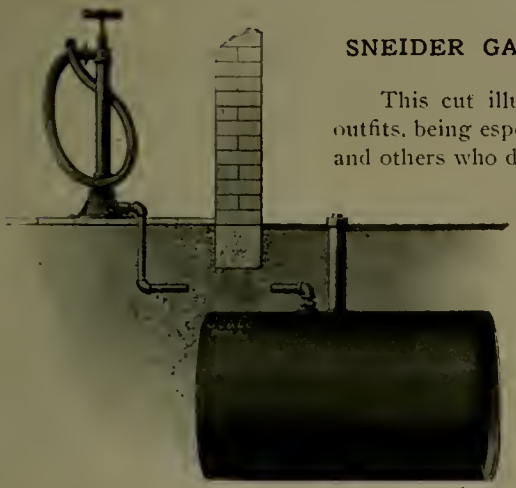
This underground gasoline tank is made of extra heavy galvanized sheet steel. Coated with anti-rust preservative paint. Removable pump, extending to bottom of tank. Gauge rod for ascertaining contents. Large funnel, with strainer.

The dimensions of this 60-gallon tank are 25 inches in diameter and 31 inches high. Pump tube extends above tank 36 inches. Dig a hole about 30 inches in diameter and 60 inches deep. A few boards placed upright around the tank and laid on top will give additional protection. Cover the tank and press the earth down firmly, leaving the top of vent tube about 3 inches and the top of pump tube about 6 inches above ground. A small box should be kept over the tubes to prevent their becoming damaged. If desired, a small wood platform may be built and the box fastened to same with hinges and locked with padlock.

Price, complete..... **$16.50**

Underground Gasoline Tank and Measure

Gasoline Tanks and Pumps



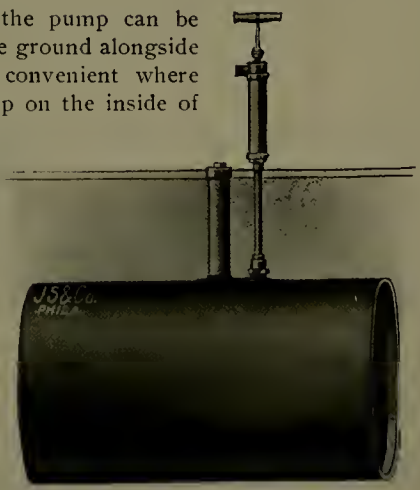
SNEIDER GASOLINE STORAGE OUTFIT

This cut illustrates our underground gasoline outfits, being especially designed for private garages and others who desire a safe and economical storage of gasoline at a moderate cost. The tank is buried in the ground outside of the building, is made of heavy galvanized steel, riveted and soldered, and coated with three coats of asphaltum. It is filled by means of a filler pipe, which extends above the surface and is locked when not in use. The pump is located inside of building and connected to tank with ¾-inch galvanized pipe.

In this illustration we show how the pump can be mounted directly above tank buried in the ground alongside driveway or alley. This is especially convenient where there is no suitable place to install pump on the inside of the building.

Both pump and tank are identical with outfit shown above. The pump is detachable and can be unscrewed from suction pipe at any time, and the pipe capped until pump is again mounted.

These outfits are sent out complete, ready for sinking in the ground.

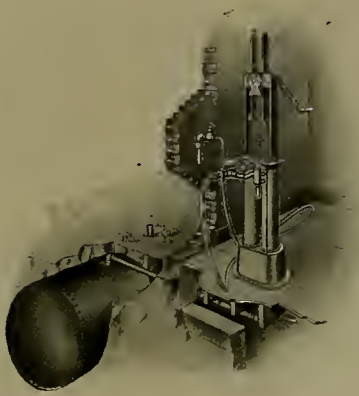


Price List

Outfit complete, 1-barrel capacity..... $30.00
Outfit complete, 2-barrel capacity..... 40.00

Carried in stock at all times.

Storage Tanks



Best Gasolene Underground Tank and Long-Distance Pump for Public and Private Garages, Stores, Factories, etc.

NATIONAL BEST

Underground Outfit, No. 7, for Public or Private Garages, Stores, Factories, etc.

Double-acting, self-measuring and registering. Guaranteed absolutely fireproof.

1-barrel capacity..... 65 gallons
2-barrel capacity.....120 gallons
3-barrel capacity.....170 gallons
4-barrel capacity.....220 gallons
5-barrel capacity.....270 gallons
10-barrel capacity.....550 gallons

Prices on application.

ORDINARY NATIONAL UNDERGROUND OUTFIT, No. 16

For Private Garages, Stores, Factories, etc.

Made of Best Material and Guaranteed for Ten Years.

For those who want a good, but less expensive, outfit.

This pump is single action and will do for ordinary use.

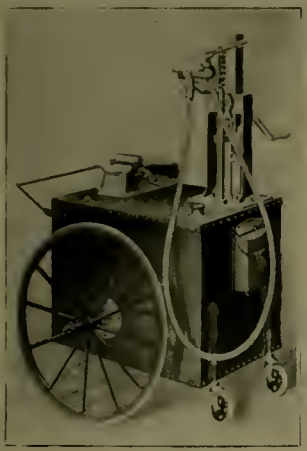
1-barrel capacity..... 65 gallons
2-barrel capacity.....120 gallons
3-barrel capacity.....170 gallons
4-barrel capacity.....220 gallons
5-barrel capacity.....270 gallons
10-barrel capacity.....550 gallons

Prices on application.

Ordinary Gasolene Underground Tank and Pump for Private Garages, Stores, Factories, etc.

Storage Tanks

NATIONAL PORTABLE GASOLINE TANKS



Absolutely fire-proof.

Rubber tires fitted to wheels.

Pumps, measures and registers direct to your car.

Wheels lock with a brake.

Easily moved about, as wheels are ball-bearing.

Nos. 1 and 2 — No. 3

No. 1—Capacity, 55 gallons gasolene, single $200.00
With 10-gallon register.

No. 2—Capacity, 55 gallons gasolene, single 250.00
With 10,000-gallon meter register, ordinary 10-gallon register, magnetic indicator, cash register, etc.

No. 3—Capacity, 55 gallons gasolene and 15 gallons oil, double..... 325.00

OIL PUMP AND STEEL CABINET

Capacity, 65 Gallons Each Tank.

For Auto Oils, Machine Oils, Etc.

Indispensable for public or private garage use.

Made from best material.

Sets to measure ½ pint, 1 pint or quart.

Indicator stick shows amount of oil in tank.

Made of best material and guaranteed 10 years.

No dripping of oil, and safe from dust. Use a tank for each kind of oil.

Prices upon application.

Automobile Soap—Top Dressing—Neatsfoot Oil

C. & L. SOAP

This soap is absolutely the best auto soap on the market—has been tried and tested for years. Will not injure the finish, but adds luster and brilliancy to any varnished or painted surface. Put up in neat, strong buckets and is highly recommended and used by most prominent people in the auto business.

5-lb. pails, each.....$ .75
10-lb. pails, each..... 1.50

C. & L. Soap

C. & L. SOAP

The high quality soap for cleaning the auto bed and running gear. Does not injure the varnish, paint or leather. Quickly removes grease stains and dirt from autos, leather, clothing, hands, etc., without the least injury. Does not necessitate an additional application of a finishing polish to restore the luster to the auto bed.

25-lb. pails.....$3.00
Kegs, about 100 lbs., per lb..... .11

GREEN OIL SOAP

High grade Automobile Body Soap. Made strictly of vegetable oils. Will not harm the most delicate article. Lathers freely. Preserves the varnish and brings out a beautiful luster. Strictly neutral and contains no acids.

5-lb. pails, each..... .75
10-lb. pails, each..... 1.50
25-lb. pails, each..... 3.00
Kegs, about 100 lbs., per lb..... .11

MOBO

A soap that makes automobiles very clean and bright. It is a soap that means much luster and long life to varnish and paint.

3 lbs.....$ .50
8 lbs..... 1.50

NEATSFOOT OIL

This oil is the most excellent lubricant for light machinery and is recommended wherever a high grade oil is required, an elegant preparation for the clutch being one of the places where it is particularly adapted.

1 pt. cans.....$ .25
1 qt. cans..... .50

AUTO TOP DRESSING

Gives a jet black durable elastic waterproof gloss and is the only liquid which improves the wearing quality of the leather, as it contains free oil and other ingredients beneficial to leather.

1 pt. cans.....$ .50
1 qt. cans..... .80

Hand Soap

We have carefully selected our lines of Soap and carry only The Best.

SKAT HAND SOAP

One of the best preparations known for dissolving dirt, machine grease, inks, paints, oils, fruit stains, glue, acids, rust, iron and brass stains, shoe blacking, etc.

12-oz. cans. Each .....$ .15
5-lb. cans. Each ..... .70
10-lb cans. Each 1.25

GRESOLVENT HAND SOAP

Has no equal for removing dirt, grease, and stains of all kinds. It contains no harmful ingredients and is acknowledged by all users of automobiles to be the best hand soap on the market.

12-oz. cans. Each .....$ .10
2-lb. cans. Each ..... .25
4-lb. cans. Each ..... .50

U-NEED

A modern Hand Soap put up in paste form which is especially adapted for all classes of mechanics, and in all MACHINE, PAINT, PRINTING AND PLUMBING SHOPS, FOUNDRIES, GARAGES, etc., and for all those whose work necessitates dirty hands.

12-oz. cans. Each .....$ .10

SOPOZONE

An indispensable companion to the automobilist, a necessity to the mechanic, printer, painter or any place where your hands are subject to this kind of dirt.

It is a liquid, and by placing a few drops on the hands, rubbing them well until the grease or dirt is removed, and then rinsing is all that is required.

1-pint cans. .....$ .25
1-quart cans ..... .40
1-gallon cans 1.25

KRYSTOL SOIL-OFF

This preparation is miles ahead of soap. Dissolves and instantly removes all kinds of machine grease, printers' ink, paint and all kinds of materials which cannot be gotten off with regular soap.

Price, in small tin box,
Each .....$ .10

Polishes

R *and* R METAL POLISH

Makes things bright. Does not scttle. Will not injure the hands. Goes four times as far as other polishes.

Pt. can. Each .....$ .25
Qt. can. Each ..... .50
Gal. can. Each 1.50

REX METAL CREAM

Does not sèttle in can. Imparts a brilliant and lasting lustre; not the ordinary white shine common to metal polishes. Manufactured expressly to meet all requirements of the auto trade for a quick, economical polish.

Pt. cans. Each .....$ .25
Qt. cans. Each ..... .50
Gal. cans. Each 1.50

SOLARINE POLISH

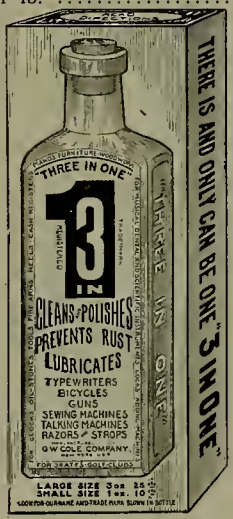
Every ingredient used in the manufacture of this polish is a cleaner and polisher of itself and the combination of all makes "Solarine" superior to all others.

This polish is not an experiment, it is perfected.

Pt. cans. Each .....$ .25
Qt. cans. Each ..... .50
Gal. cans. Each 1.50

1-lb. packages of powder to be used with gasoline.

Per lb. .....$ .35



3-IN-1 OIL

Cleans, polishes and prevents rust. Excellent for polishing leather. Good for fine parts of machines and magnetos.

1-oz. bottles .....$ .10
3-oz. bottles ..... .25
8-oz. bottles ..... .50

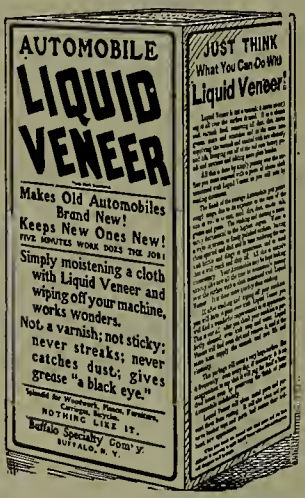
A-1 AUTO POLISH

Body polish and leather dressing. Acts as a varnish and will restore a bright and transparent lustre to any car. Removes all grease spots and stains, leaving finish with appearance as when new.

Pint cans, each .....$ .50
Quart cans, each 1.00
½-Gal. cans, each..... 1.75
Gal cans, each 3.00

CHEESE CLOTH

Selected, per yd.....$ .05



LIQUID VENEER

As an enamel polish and cleancr it has no equal. It is indispensable to every first-class garage and is a household necessity. Packed in a very attractive manner for display purposes.

4-oz. bottle, price cach.$ .25
12-oz. bottle, price each. .50
Quart bottle, price each. 1.00
½-gal. bottle, price each 1.75
1-gal. bottle, price cach. 3.00

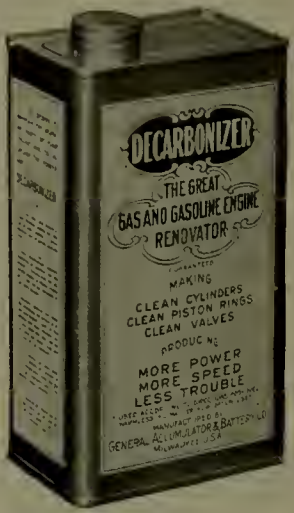
Decarbonizing and Radiator Fluids

FRENCH COMPRESSION FLUID

French Compression Fluid does not merely loosen carbon but is guaranteed to remove carbon without deleterious effect on the cylinder walls, valves or any part of the motor. Requires no scraping. Directions with each can.

RADIUM DECARBONIZER

This is a harmless fluid, and will remove all carbon from your cylinder and pistons. Will leave your cylinders in perfect condition. Give more compression to your engine, producing more power and speed and less trouble. Directions with each can.



French Compression Fluid

1 Pt. cans. Each	$ .50
1 Qt. cans. Each	1.00
½ Gal. cans. Each	1.50

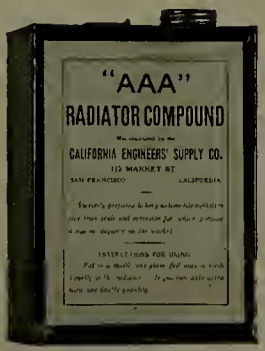
Radium Decarbonizer

Pts.	$ .75
Qts.	1.00
½-Gals.	2.00
Gals.	3.50

FLUFF-FOE RADIATOR COMPOUND

For removing scale and rust from the radiator, thereby increasing the efficiency of the engine. Guaranteed not to contain any acids. Put up in tin cans with screw tops, will not leak.

Price, Qt. $1.00



AAA RADIATOR COMPOUND

Specially prepared to keep Radiator free from scale and corrosion.

Price, 1 Qt. $1.50

PRESTO-DECARBONIZER

Quickly and absolutely removes all deposits of carbon from cylinders, piston rings, and valves, producing more power and speed, and eliminating all troubles caused by the presence of carbon deposits within the motor.

Gallon can	$3.75
Half-gallon can	2.00
Quart can	1.00

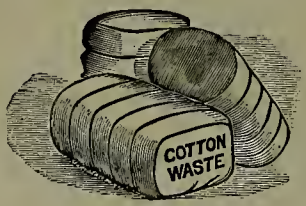
Sponges, Chamois, Waste, Dusters, Aluminum Enamel

SPONGES

We carry only genuine sheep's wool Rock Island Sponges; will not scratch the varnish.

In ordering, specify about what size or weight is wanted. The usual size to meet ordinary requirements weighs three to four ounces.

Price, per oz.....$ .35

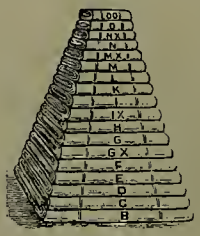


COTTON WASTE

A clean, selected white waste, handy for cleaning, polishing and general wiping around the machine.

XXX Grade.

Price, per lb. .....$ .15



CHAMOIS

We carry the best grade of imported English Chamois. The superiority of the English chamois lies in the absence of oil, which enables one to secure a high polish; it also remains soft and flexible.

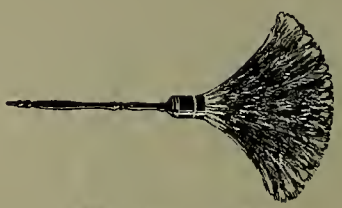
No. 1.	Small.....	$ .40
No. 2.	18x24	.75
No. 3.	24x24	1.25
No. 4.	30x36	1.50

WOOL DUSTERS

Made especially for automobile use. Very soft and will not scratch the finest finish.

Made in three sizes.

No. 0.	Small	$0.50
No. 4.	Medium	1.00
No. 6.	Large	1.25



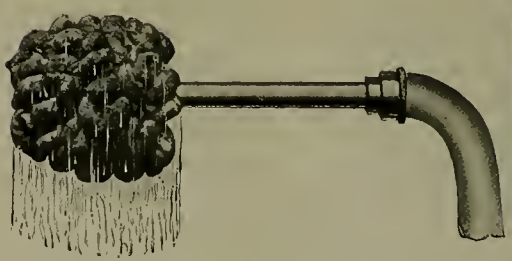
FEATHER DUSTERS

Made of high-grade specially selected turkey tail feathers.

Each $2.75

CARRIAGE FEATHER DUSTERS

Each $1.00



SUNSET AUTO AND CARRIAGE WASHER

Washer, with standard size Mop.....$1.75

Extra Mop ..... .50

Supplied in a handy can—ready to be mixed—absolutely the finest grade of Aluminum Bronze—in connection with a specially prepared Liquid Medium specially adapted to meet the exacting requirements of the automobile. Is highly recommended for use on engine cylinders and exhaust pipes.

VULCAN ALUMINUM PAINT

Quarts	$1.60
Pints	.90
Half Pints	.55
Large	.35
Medium	.25

Folding Buckets and Pails

Duplex Folding Pails and Basins are made of thoroughly water-proofed heavy brown canvas, metal parts are of spring steel and absolutely rust-proof. The Duplex Pails can be folded flat and carried conveniently under the seat or in tool box. They should be a part of every car equipment, as they are invaluable in touring.

No. 5, Open
Size, 9½ x 11 inches

No. 5, Folded
Size, 13¼ x 6 x 2½ inches; capacity, 10 quarts.

No. 5 FOLDING PAIL WITH SPOUT
Price, each **$2.00**

No. 5½, Open
Size, 5½ x 7½ inches.

No. 5½, Folded
Size, 7½ x 3½ x 1½ inches.

No. 5½ FOLDING FUNNEL
Price, each **$1.50**

No. 3 FOLDING PAIL WITH SPOUT
Size open, 7½ x 10 inches.
Size folded, 10¼ x 6 x 2½ inches. Capacity, 6 qts.
Same as No. 5, but of smaller dimensions.
Price, each **$1.50**

No. 4 FOLDING PAIL WITHOUT SPOUT
Size open, 7½ x 10 inches.
Size folded, 10¼ x 6 x 2½ inches. Capacity, 6 qts.
Same as No. 12, but of smaller dimensions.
Price, each **$1.00**

N. I. R. RUBBER FOLDING BUCKET
Capacity, 2 gallons. Fitted with self-opening valve for filling radiator.
Price, each **$2.00**

No. 12, Open
Size, 9½ x 11 inches.

No. 12, Folded
Size, 13¼ x 6 x 2½ inches. Capacity, 10 quarts.

No. 12 FOLDING PAIL WITHOUT SPOUT
Price, each **$1.50**

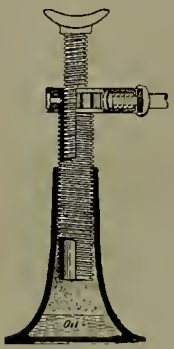
No. 112, Open
Size, 7½ x 12 inches.

No. 112, Folded
Size, 12 x 7½ x 1½ inches.

No. 112 FOLDING BASIN
Price, each **$1.50**

No. 316 BASKET
16 inches long.....**$2.00**
No. 318 BASKET
18 inches long.....**$2.50**

Jacks

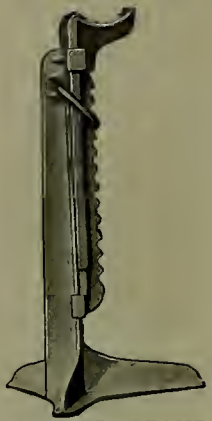


SUNSET JACK
Double-Acting
Ratchet Screw Jack.

Height	Raise	Wt.
12″	10″	6 lbs.

Price $6.00

SUNSET STORAGE JACK
Set of four ...$4.00
Single 1.25



STORAGE STAND
Set of four $5.00
Single 1.50

RELIABLE TIRE SAVER

RELIABLE STORAGE STAND

The above devices will more than pay for themselves in one season's use. No trouble to relieve your tires from the weight of car, taking the weight from the tire; will prolong its life one-third.

IDEAL JACK

Height	Raise	Weight
10″	7″	5½ lbs.

Price, each $2.25

A very powerful jack. Constructed of best material and easy to operate. The adjustment of screw is obtained by raising the screw and spinning the nut to the desired position.

Capacity, two tons.

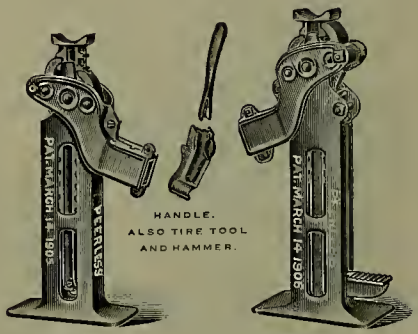
SPRINGFIELD

Height	Raise	Weight
12″	6″	4½ lbs.

Price, No. 0.....$1.00
Price, No. 1..... 1.50

Springfield Jacks lift up from a dead center, by a powerful special thread steel screw. Is compact, takes up very little space and is rattle proof.

Capacity, one ton.



Nos. 50, Nos. 52.

NO. 50 PEERLESS JACK

Height	Raise	Wt.
10″	7″	4½ lbs.

Price, each.....$2.00

NO. 52 PEERLESS JACK

Height	Raise	Wt.
12″	9″	5½ lbs.

Price, each....$2.75

Peerless Jacks

are simple to operate. To raise work, handle below center; to lower, turn handle over and work above center. The handle is combined Hammer, Tire Tool and Handle.

Capacity, two tons.

Jacks

THE BARRETT AUTOMOBILE JACKS

Are quick-acting, automatic-lowering jacks, designed and proportioned especially for automobile purposes, and adapted to all lifting requirements in that line. They can be conveniently carried as part of the equipment, and are indispensable for touring or general purposes. They lift one ton, dead weight, and are constructed throughout of refined malleable iron and high carbon steel, every part being machine finished.

No. 08 for large car and garage. Jr. for small car equipment.

NO. 08

Capacity, 1½ tons.

No.	Height	Rise	Weight
08	11½″	8″	9 lbs.

Price, each $4.50

BARRETT JR.

Capacity 1 ton.

Jr.	Height	Rise	Weight
	10″	6″	4 lbs.

Price, each..... $2.50

STANDARD JACK NO. 1

Capacity, 1 ton

Height	Rise	Weight
11½″	7″	9 lbs.

Price, each $3.75

STANDARD JACK NO. 2

Capacity, 1 ton

Height	Rise	Weight
10″	6″	8 lbs.

Price, each $3.50

BABY STANDARD JACK

A new small size single acting standard Jack with reversible lever on side. Requires little room and is suitable for medium size cars.

Capacity, 1500 lbs.

Height	Rise	Weight
10″	6″	6 lbs.

Price, each $2.50

The Standard is the leader in this line, having a capacity for all regular demands. No. 1 is a jack for hard, heavy work, thoroughly reliable for shop use. No. 2 is the same as No. 1, except is much shorter for low, close work. Baby for equipment purposes.

TRADE MARK Raybestos

RAYBESTOS makes Brakes silent in action, enables them to "grip" instantly. This famous fabric is wear-proof—it will outlast the life of any other brake lining many times.

Showing Raybestos as applied to Brake

TRADE MARK Raybestos is a wire woven asbestos tape, manufactured from the highest quality of asbestos procurable, known in the asbestos trade as No. 1 stock. The wire used in the weaving is copper alloy, of the United States government standard, specified and used in the manufacturing of steam packing for government use.

Raybestos is made up in one integral part, which permits of its being stamped out for clutches or cones, and will not disintegrate in any way as a result of the stamping out in circular form. It will not disintegrate during its wearing life, as there is no stitching in the material or layers to become loosened through any cause whatever.

The first cost is a trifle more than ordinary brake lining or friction facings, but its wearing life outlasts that of any other, from four to five times.

LIST (Per Lineal Foot)

TRADE MARK Raybestos

FRICTION FACING

THICKNESS	WIDTHS								
	1 in	1¼ in	1½ in	1¾ in	2 in	2¼ in	2½ in	3 in	4 in
1/8in	.32	.36	.40	.46	.52	.58	.64	.74	.92
3/16in	.42	.50	.58	.68	.76	.84	.94	1.12	1.44
1/4in	.56	.66	.76	.88	1.00	1.12	1.24	1.46	1.88

RED SHEET FIBRE

Sheets Thickness	Per lb.
1-64	$ .45
1-32	.45
1-16	.40
1-8	.40
3-16	.40
1-4	.40

Cut in any size. When ordering, specify quantity desired, i. e., 1 square ft.

SPRING CLIPS

Heavy half oval pattern. Stock ⅞ inch. Shank ⅝ inch.

Spring Clips

Width of Spring	Thickness of Spring	Length of Shank
1½ in.	1 in.	2 in.
1¾ in.	1 5/16 in.	1½ in.
1¾ in.	1 5/8 in.	2 in.
1¾ in.	2½ in.	2 in.
2 in.	1 3/8 in.	1½ in.
2 in.	1 11/16 in.	2 in.
2 in.	2½ in.	1 5/8 in.
2 in.	2¾ in.	1 5/8 in.

Price, each $0.35

Price, assorted package of 16-2 each of the above..... $4.00

RED FIBRE TUBING

Carried in 3-ft. lengths only.

Diameter	Thickness of Wall	Per ft.
¾	1/16	$ .25
⅞	1/16	.25
1 1/16	1/16	.30
1	1/16	.30
1⅛	1/16	.35
1¼	1/16	.35
1⅜	1/16	.40
1½	1/16	.40

Brake Lining—License Numbers—Copper Rivets

Thermoid

Widths	Thickness 1/8 Per ft.	3/16 Per ft.	1/4 Per ft.
1"	$ .33	$ .44	$ .58
1¼	.38	.52	.69
1½	.42	.60	.79
1¾	.48	.71	.92
2	.54	.79	1.05
2¼	.61	.88	1.17
2½	.67	.98	1.30
3	.77	1.17	1.53
4	.96	1.51	1.97

THERMOID BRAKE LINING

Is composed of the finest asbestos, in which is interwoven brass wire. This is a lining which we can recommend to all our patrons.

CAMEL BRAND BELTING

CAMEL HAIR BRAKE LINING

Width	1	1¼	1½	1¾	1⅞
Per ft.	$ .18	$ .20	$ .24	$ .29	$ .32
Width	2	2¼	2½	2¾	3
Per ft.	$ .34	$ .39	$ .43	$ .48	$ .53

Standard thickness of Brake Banding is about ¼ inch.

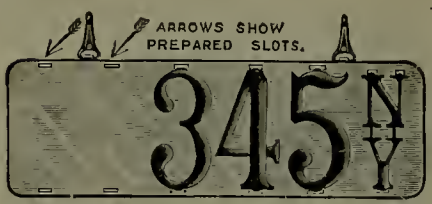
This Banding is for use on band brakes and is absolutely not affected by grease or oil. The wearing qualities exceed any other material made for the purpose. It can be used any place where a friction surface is wanted.

COPPER RIVETS AND BURRS

For Attaching Brake Lining

Length	Gauge	Price Per Box
¾	8	$ .50
¾	12	.50
⅝	8	.50
⅝	12	.50

Packed in neat half pound boxes.



SUNSET NUMBER PLATE

The placards consist of sheet steel enameled white fitted with openings for characters which may be secured to pad by clinching the ends after inserting in openings—size of placard 13x4½ inches.

Price List

Price, complete	$1.25
Plates only. Price, each	.80
Numbers only. Price, each	.10
Number Plate Straps. Per pair	.15

LAMP NUMBERS

These spring brass, highly polished lamp numbers and frames can be instantly made up and attached to the inside of any lamp.

Price, per pair	$1.00
Extra numbers, each	.05
Extra frames	.25

CLOVER BRAND GRINDING COMPOUND

TRADE MARK REGISTERED
PATENTED JUNE 8TH 1909

A Scientific Mixture of Abrasive and Petroleum Hard Oil

Containing No Emery
Having No Magnetic Properties

Clover Compound will not melt or run in temperatures under 200 degrees

Will Not Dry Up, Cake or Deteriorate

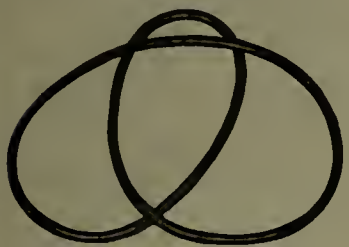
Ready for Use as Sold

For grinding valves—lapping out cylinders—lapping crank shafts—grinding pistons into cylinders—roughing-in work and general polishing.

Made in 6 grades—1-A (very fine), A, B, C, D, and E (very coarse)

Over 250,000 Cans Sold During 1909

Leather Belting, Wire Belting, Belt Couplings, Copper Wire, Enamel, Carborundum, Emery Cloth, Valve Grinder



STEEL WIRE BELTING

¼-inch, per foot.....$0.10
⅜-inch, per foot..... .11
⅛-inch, per foot..... .12

FLAT LEATHER BELTING

½-inch, per foot..$0.12
¾-inch, per foot.. .18
1-inch, per foot... .25
1¼-inch, per foot. .30

All Flat Belting, ⅛ inch thick and made of best leather.

ROUND LEATHER BELTING

¼-inch, per foot.....$0.08
⅜-inch, per foot..... .10
⅜-inch, per foot..... .15

V LEATHER BELTING

½ to ¼, per foot.....$0.25

L. X. WIRE BELT COUPLINGS

Threaded with a pitch to engage securely with the belt. Instantly attached or detached.

⅛-inch, ⅜-inch and ¼-inch, price, each.....$0.15

WIRE COUPLINGS

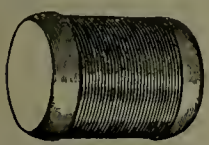
Made for round or flat leather belting.

Price, per dozen.....$0.10

MORANS COUPLINGS

Made for round leather belting.

Price, each, ¼, ⅜, ⅜...$0.20



SOFT COPPER WIRE

¼-lb. spools, 16, 18, 20-gauge, each $0.15

EUREKA VALVE GRINDING COMPOUND

Directions on each box.

Price, each $0.50

BROWN VALVE GRINDING SET

For grinding in the intake and exhaust valves, gives a semi-rotary motion instead of a full revolution, thus eliminating any chance of rubbing or scratching the contact faces. Furnished with lifter spring to clamp to valve base for overcoming weight of tool; and a can of valve grinding compound.

Price, complete $4.00

CARBORUNDUM FOR VALVE GRINDING

F	FF	FFF
Coarse	Medium	Fine

Put up expressly for Chanslor & Lyon Motor Supply Co. Packed in 1-pound cans.

Each $0.35

EMERY CLOTH

In Sheets.

Nos. 0 to 1½, per doz...$0.70
No. 2, per dozen..... .75
No. 2½, per dozen..... .80
No. 3, per dozen..... .85

RADIATOR ENAMEL

Fuller's Best Black

½-pint cans, each.....$0.40
1-pint cans, each..... .65

HIGH DUTY
AA-GRADE
STEEL BALLS

HIGH DUTY
A-GRADE
STEEL BALLS

HIGH DUTY AA-GRADE STEEL BALLS

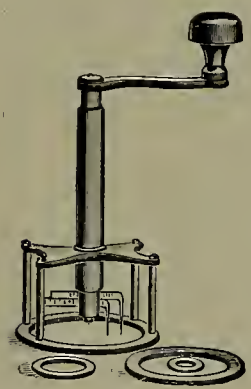
These balls are made of the famous chrome nickel steel which produces balls of from 25 to 50 per cent greater crushing strength than any balls that have been placed on the market. They are especially desirable for automobile and high-pressure work generally.

HIGH DUTY A-GRADE STEEL BALLS

Strictly first grade steel balls, guaranteed perfect and accurate as to size and gauge. Suitable for ordinary loads, but where great crushing strength is desired we recommend the "High Duty" Balls.

Price List
Prices per hundred.

Size	AA-Grade	A-Grade	Size	AA-Grade	A-Grade
1/8-inch	$0.50	$0.25	1/2-inch	$7.50	$4.00
3/32-inch	.60	.35	9/16-inch	9.00	5.40
1/16-inch	.65	.40	5/8-inch	10.00	6.00
3/32-inch	1.25	.45	11/16-inch	12.50	7.80
1/4-inch	1.25	.50	3/4-inch	13.00	10.00
5/32-inch	1.50	.90	13/16-inch	17.00	14.00
11/64-inch	2.00	1.00	7/8-inch	24.00	18.00
3/8-inch	3.00	1.50	15/16-inch	26.00	20.00
7/16-inch	5.50	3.20	1-inch	30.00	24.00



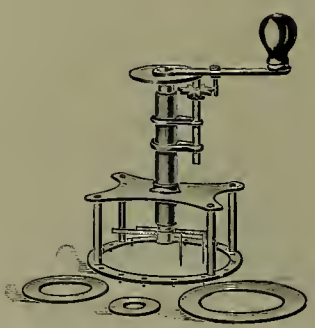
Washer and Gasket Cutter
No. 0
Cuts 3/8 to 2.
Price, each $1.15

WASHER AND GASKET CUTTERS

This machine fills a long-felt want. It is made of drop-forge and roll steel. The knife bars are made of the best tool steel and are graduated at one-half inch scale to the inch; therefore, no calculations are necessary. This machine will cut any size washer or gasket quickly and accurately, of lead, rubber or any material used, of any thickness, from a sheet of paper to one-half inch lead. This tool is, without question, by far the best on the market. It saves monthly its value in material.

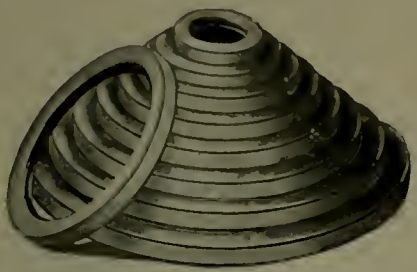
Oxidized, copper plated.

No. 00
Cuts 3/8 to 2.
Price, each $1.50



Washer and Gasket Cutter
No. 1
Cuts 3/4 to 4 1/2.
Price, each $3.75

Gaskets—Packing



ROUND COPPER ASBESTOS GASKETS

Spark Plug Sizes

Size Rajah. Price, per doz.....$ .20
Size Metric. Price, per doz..... .20
Size Half-inch. Price, per doz..... .20
Size ⅞ A. L. A. M. Price, per doz.... .20

Regular Size Gaskets

Sizes given are inside measurements

Sizes 1 to 1⅛ in. in 16ths. Price, doz.. .50
Sizes 2 to 2⅛ in. in 16ths. Price, doz.. .75
Sizes 3 to 3½ in. in 16ths. Price, doz.. 1.25

MOGUL PACKING

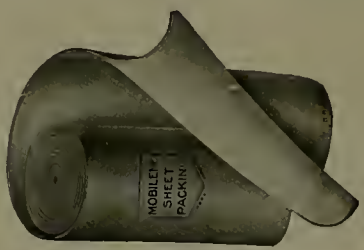
This packing is made in braided or twisted form from strands of absolutely pure, long fibre, asbestos yarn, each strand thoroughly lubricated. Sizes ⅛ in., 3-16 in. and ¼ in.
Price, per lb.....$1.25

EXHAUST VALVE GASKETS

Made of asbestos board, encased in brass and copper foil. The copper overlaps the brass around the hole in the center, but is sunken in in order to make the surface perfectly flush and smooth. The sideholes are oblong to allow for variations in the distance between the bolts.

Price List

Size 1 in. to 1 7-16 in. in ⅛ths. Each..$ .15
Size 1½ in. to 2½ in. in ⅛ths. Each. .20



MOBILENE PACKING

In our "Mobilene" we offer a specially prepared, tightly woven, pure asbestos and wire cloth, treated with a high heat-resisting compound to meet the severe requirements incident to this service. The peculiar conditions of gas and gasoline engine work have proved that ordinary organic packings are totally unreliable for this purpose.
Price, per lb..... $1.25

No. 629

SPARK PLUG PACKING

For packing spark plugs, in place of copper gaskets.
1¼ oz. spools. Each...$ .50

VULCABESTON PACKING

Composed wholly of pure long asbestos fiber. Will not harden, crack or char.
Price, per lb.....$1.25

No. 195

ASBESTOR WICKING

A loosely woven asbestos wicking adapted for various uses on automobiles.
Price, ¼-lb. balls, each..$ .20

CANDLE WICKING

Price, per roll.....$ .05

Thermos Bottles

THERMOS BOTTLES

THERMOS
BOTTLE CASES

The Thermos Bottle is made with steel case on the outside and two strong glass bottles, one within the other, on the inside, sealed at the neck, leaving a space or air chamber between the two receptacles, from which all the air is extracted; thereby creating a perfect vacuum. This vacuum is a non-conductor of heat or cold.

The bottle is collapsible or demountable, and being so, an easy repair is assured should the glass become broken.

All that is necessary is to detach the neck and insert the new bottle.

A complete line of new bottles, new glasses or refillers and leather cases on hand always.

The Thermos Bottle keeps hot soup, bouillon, clam chowder, coffee, toddy, hot scotch, or any other liquid.

The Thermos Bottle keeps ice-cold water, milk, lemonade, ginger ale, champagne, gin rickey, or any other drink.

The Thermos Bottle is the greatest thing for the comfort and convenience of the human race ever invented.

Here are a few of the talking points on the **Thermos Bottle:**

Motoring Motorists can fill **Thermos Bottles** with any liquid they want at any temperature they like, and no matter where they go or what happens, they have hot and cold refreshments at hand.

Outings When picnicking, yachting, hunting, canoeing—on any kind of trip—anybody can have hot drinks or cold drinks always ready if they are put into **Thermos Bottles** before they start.

Traveling No more vain longing for a refreshing drink on tedious railroad journeys. Travelers can simply put into their grips one or two **Thermos Bottles** filled with hot coffee or cold lemonade or any liquor they want at the temperature they like it.

Price List Thermos Bottles

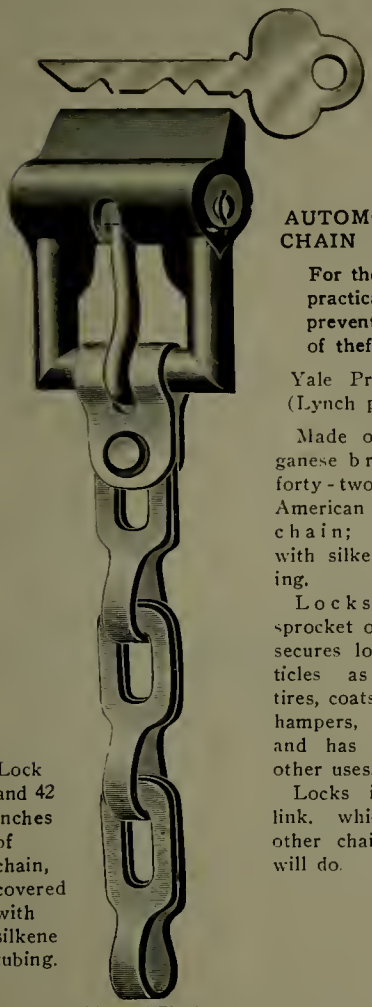
1-pint bottle, nickel	$3.75
1-quart bottle, nickel	5.75
1-pint refiller	2.00
1-quart refillers	3.00

Leather Cases for Thermos Bottles

1 pint, leather case, one bottle	$2.50
1 quart, leather case, one bottle	3.25
Double pint, leather case, two bottles	3.50
Double quart, leather case, two bottles	4.50

We carry a full line of **Thermos Lunch Sets.** Prices, ranging from **$18.00** to **$75.00.** Bottles extra.

Locks—Handles



Lock and 42 inches of chain, covered with silkene tubing.

(Actual Size)

AUTOMOBILE CHAIN LOCK

For the practical prevention of theft.

Yale Principle (Lynch patent)

Made of manganese bronze; forty-two inch American steel chain; covered with silkene tubing.

Locks crank, sprocket or gear; secures loose articles as extra tires, coats, robes, hampers, bags, and has many other uses.

Locks in any link, which no other chain lock will do.

THE PERFECT AUTOMOBILE CHAIN LOCK

No. 8—Each $1.50

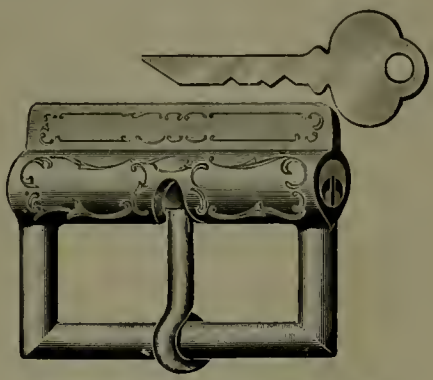
Brass Safety Handles

BRASS HANDLES

Can be fastened in any desired place. Made in three sizes. No. 1 for large roadsters. No. 2 for runabouts. No. 3 Hood handles.

Price List

No. 1—Ext. length 6 in. inside 3½ in. $0.75
No. 2—Ext. length 5¼ in. inside 3 in. .50
No. 3—Ext. length 4½ in. inside 2½ in. ..... .35

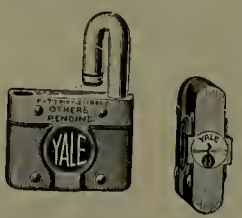


THE PERFECT LOCK BUCKLE

Ordinarily used as a common buckle, but convertible into a secure and unpickable lock in an instant. For use on straps on automobile hoods and trunks. Fastens trunk to carrier, locking on both.

Price List

No. 1—	5/8	in.	Strap	Lock,	each	$0.50
No. 2—	¾	"	"	"	"	.75
No. 3—1		"	"	"	"	1.00
No. 4—1¼		"	"	"	"	1.25
No. 5—1½		"	"	"	"	1.50



GENUINE YALE PADLOCKS

For battery and tool boxes, tire holders, rumble seats, etc. Small and neat design. Strongly made, strongly made, furnished with two keys.

Price

No. 0..... $0.35
No. 1..... 1.00

No. 10 Fastener

No. 10 FASTENER

Suitable for battery or tool boxes, also used on rumble seats that are hinged to a box. Made of brass.

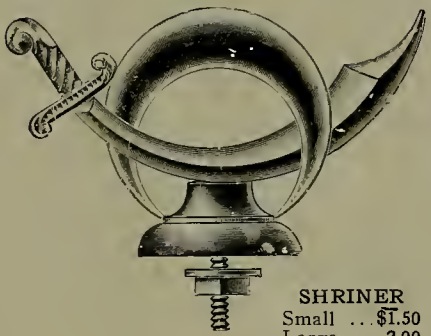
Price, each.. $1.25

Radiator Ornaments—Toilet Cases

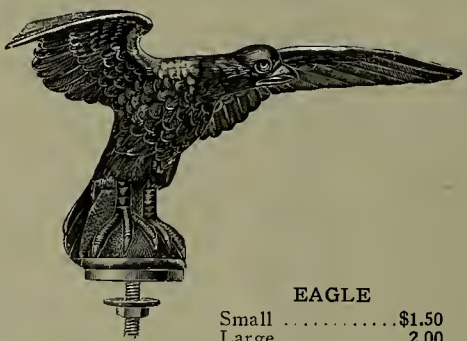
BILLIKEN
Small $1.50
Large 2.00

ELK
Small $1.50
Large 2.00

GOBBO
Small $1.50
Large 2.00



SHRINER
Small ...$1.50
Large ... 2.00



EAGLE
Small $1.50
Large 2.00

RADIATOR CAP ORNAMENTS

Radiator Cap Ornaments are being used more extensively than ever. They come in many designs and give a tone to the car that is otherwise unattainable. They are easily attached by boring a small hole in the radiator cap.

AUTO TOILET CASE OUTFIT
No. 22

The limousine toilet outfits are made from the best morocco leather, and all the articles are silver mounted.

No. 22 contains nickel watch, perfume bottle and mirror.

Price complete $6.00

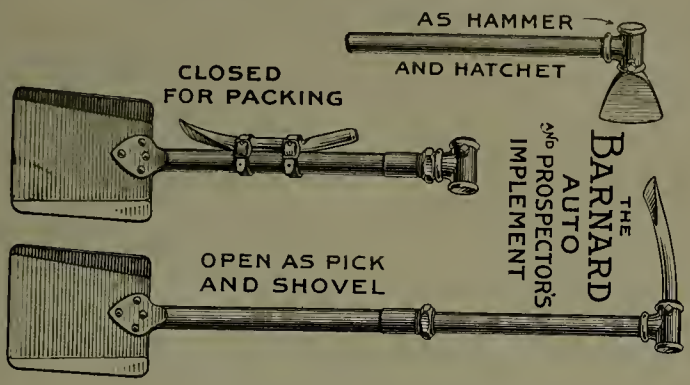
No. 18 contains the same articles as No. 22, only a little different in design.

Price $6.00

La France contains watch, perfume bottles, mirror, pad and pencil.

Price complete.....$10.00

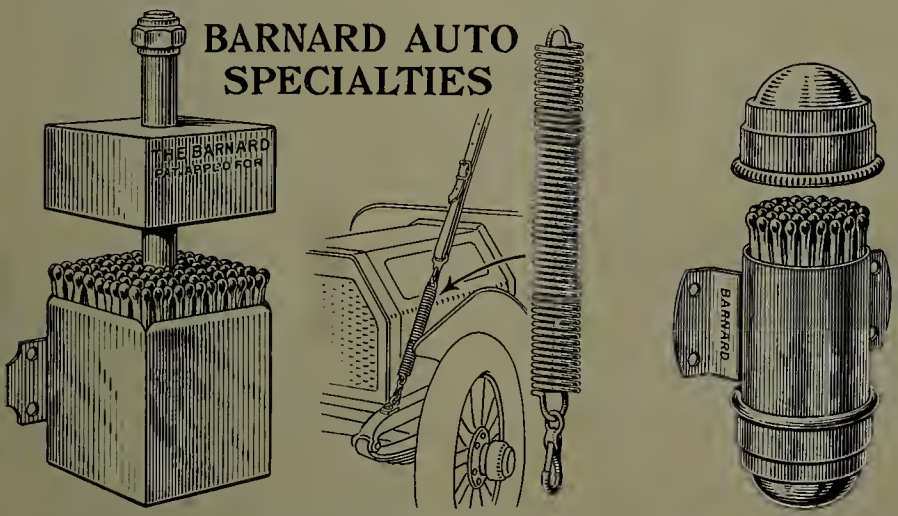
Barnard Auto Specialties



BARNARD AUTO TOOL

A combination Shovel, Pick, Hatchet and Hammer with telescoping handle. 22 inches long over all when closed for packing. The Handle and Shovel are made of steel and the Pick and Hatchet of the finest tool steel thoroughly tempered. This will be found an invaluable tool for touring.

Price—Black Enamel Finish $3.50
Price—Full Nickel Plated 5.00



BARNARD MATCH SAFES AND TOP SPRINGS

Barnard Square Match Safe

A convenient article to go on the dash, easy to reach; is waterproof and has a secret lock.

Price—Nickel Plated or Polished Brass $2.00

Barnard Round Match Safe

A strictly waterproof case in which matches can be stored for emergency requirements. Attaches to dash.

Price—Nickel Plated or Polished Brass $1.00

Barnard Top Springs

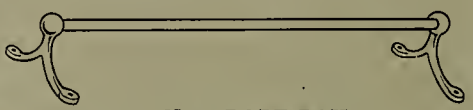
For attaching between car frame and top strap to relieve the top and straps of all shocks and strains. Made of best Spring steel, heavily nickeled on copper.

Price, per pair, complete with snaps ..... .75

Robe Rails and Foot Rests

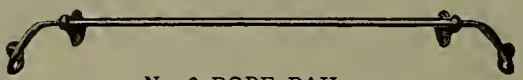
No. 0 ROBE RAIL

½x30 Cross Rods. Polished brass S handles.
Each $1.50



No. 1 ROBE RAIL

⅜x30 Cross Rods. Polished brass V brackets.
Each $1.25

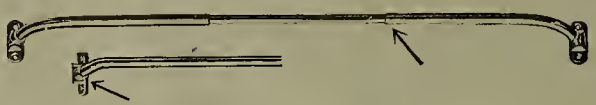


No. 2 ROBE RAIL

⅝x30 Cross Rods. Polished brass T handles.
Each $1.75

No. 3 STRAP COAT AND ROBE RAIL

Polished brass, S handles. Each $2.00

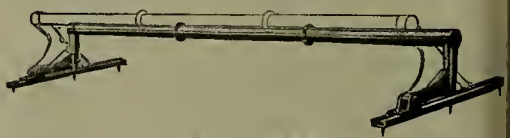


NO. 4 FIT-ALL ROBE RAIL

Telescope ends make it easy to adjust to fit any length seat. Polished brass.
Each $2.00

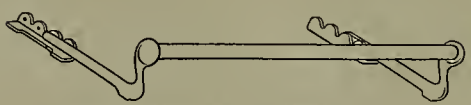
No. 5 FOOT REST

Made with oval or convex surface covered with Rubber Matting and bound with neat brass bindings. Can be tilted to any angle desired.
Each $3.50



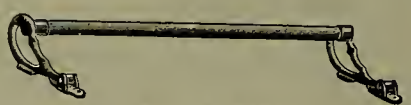
No. 6 FOOT REST

Equipped with adjustable track. Permits adjustment of the rest, 5 inch backward or forward to accommodate tall or short person. Polished brass.
Each $3.00



No. 7 BABY FOOT REST

Is especially adapted for front seats. Has 6 inch backward or forward adjustment. Polished brass.
Each $3.00

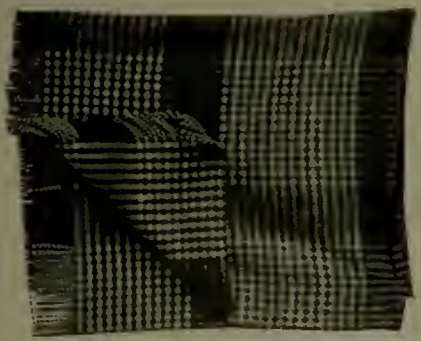


No. 8 FOOT REST

Very neat in design. One end loose so that it can be cut to any desired length. Polished brass.
Each $2.25

All Robe and Foot Rails, with the exception of No. 5, come with one end loose so that they can be cut to desired lengths.

Automobile Robes



CRAWFORD R

Heavy wool, beautiful design, in red, white and black Scotch Plaids.

Price $14.00

FEDERAL A

All wool, good weight, in dark green, maroon and black plaids.

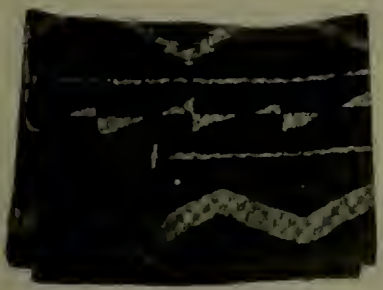
Price $10.00

GIBSON A

Excellent value, black, green and red plaids, medium weight.

Price $7.50

HEAVY STEAMER ROBES, ALL SCOTCH PLAIDS



No. 815—Duchess. Fine mohair, color light tan and brown, lining a beautiful blue.

Price $40.00

No. 1963½—High class plush robe, combination, color white, black and brown, very stylish pattern.

Price $22.50

No. 575c—Crushed mohair face, blue, green or brown, fine plush back.

Price $15.00

No. 654—Handsome medium weight plush, dark blue on one side, light green on other side.

Price $12.50

IMPORTED PLUSH ROBES

Waterproof "A"—Plush one side, rubber on other side.

Price $4.50

Waterproof "D"—Plush on one side, rubber on other side. 50x68.

Price $5.50

RILEY SCORCHER

Similar to Waterproof "D," but with pantasote leather on one side instead of rubber.

Price $7.50

ACME

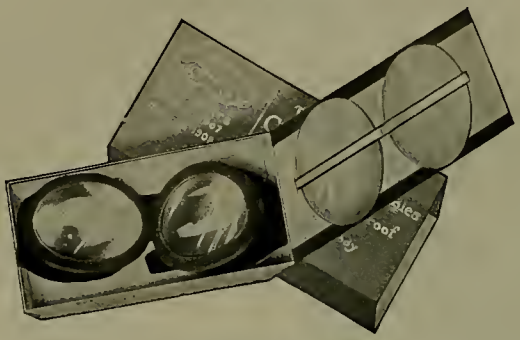
Plush on both sides. Black and green. 54x68.

Price $6.00

In offering to the trade our motor car robes, it is with the belief that we have a line which for variety and quality is unequaled. Much attention has been given to the requirements of the motorist, and consequently our robes are adapted to the use for which they are designed. Style, comfort and durability are essentials which have been carefully considered.

The variety of robes listed are only a few of the different styles and patterns that we have in stock. We aim to carry in stock at all times the very latest and newest in this line.

Goggles



No. 18170s
RUBBER GOGGLES

Each goggle packed separate in green sliding cardboard box with extra pair curved smoked lenses, in lid.

18464s—All rubber, red or green, ventilated, curved lenses.
Price $1.75

18170s—All rubber, green, ventilated, large curved lenses.
Price $2.50

18172s—Same as 18170, but with chenille binding around the eye cups.
Price $2.00

18174s—Same as 18172, lined with leather.
Price $2.50

18175s—Same as 18174, but with larger mask.
Price $3.00

No. 17278s COLLAPSIBLE GOGGLES No. 17208s

17278—Collapsible silk eye cups, velvet bound; extra large curved lenses, new form.
Price $2.00

16864—Same as 17278, but chenille bound.
Price $2.00

17208—Collapsible silk eye cups, chenille bound; leather bridge; large curved egg-shaped lenses.
Price $1.50

18955—Same as 17208, but stockinette eye cups.
Price $1.25

No. 18473s
PANORAMIC GOGGLES

18473—Trilux, leather mask, silk lined, velvet bound, ventilated; large flat front lense, two side lenses, easily removed; patent hinges; in cardboard box.
Price $1.75

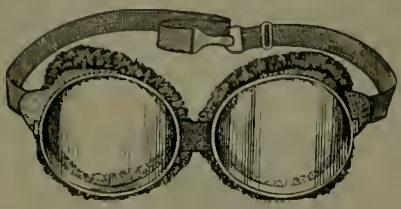
Goggles

No. 17935S
RUBBER GOGGLES

Each goggle packed separately in cardboard box.

17935S—All rubber, red and green, ventilated, curved lenses.

Price $1.25



No. 180A
COLLAPSIBLE GOGGLE

Collapsible silk cups, edged with chenille, leather nose piece, medium size, flat oval glasses, adjustable elastic head band.

Price $1.00

No. 15896s
COLLAPSIBLE GOGGLES

15896s—Collapsible silk eye cups, chenille bound; leather bridge; flat lenses. Large size.

Price $1.25

No. 18299s
PANORAMIC GOGGLES

18299s—Aluminum cups, ventilated, velvet and chenille bound; leather bridge; extra large curved lenses, cut to conform with the features of the face, easily interchangeable.

Price $1.25

No. 7285 B. S.
COLLAPSIBLE GOGGLES

7285 B. S.—Collapsible stockinette eye cups, leather mask, unlined, bound with silk, flat oval lenses.

Price $1.00

Dusters

RUBBER SHIRTS

Made of light weight rubber. Slips over the head and fits close to the neck and wrist. Reaches below the ankle. The most practical garment for wet weather, and especially valuable to Taxicab drivers. Three sizes —Small, medium and large, in either red or black.

No. 641-B, Black rubber, **$6.00**
Tan and red rubber..... **7.50**

DUSTERS

No. 4015 Maxwell—Tan Mercerized Cotton, Single Breasted Military Style ..... **$ 2.00**

No. 4010 Maxwell—Dark Gray, Mercerized Linenette, Double Breasted Military Style **2.25**

No. 4042 Buick—Gray Linenette, Double Breasted Military Style **2.75**

No. 4050 Thomas—Tan Drill, Double Breasted Military Style **3.00**

No. 4163 Slip On—Olive Khaki, Double Breasted Military Style **5.00**

No. 4151 Zust—Heavy Khaki, Double Breasted Military Style **6.00**

No. 4152 Zust—Heavy Khaki, Leather Trimmings, Double Breasted Military Style..... **7.50**

No. 4125 Protos—Light Tan Rap, Double Breasted Military Style **7.00**

No. 4127 Protos—Olive Rap, Double Breasted, Military Style **7.00**

Roseberry—Tan and Olive Waterproof, Double Breasted Military Style **16.00**

We endeavor to carry at all times a complete line of up-to-date Automobile Clothing, etc., suitable to the autoist, both for touring and every-day driving. Continued styles of these articles are being introduced continually and we always select the most suitable lines consistent with quality and price. We invite your inspection of these goods.

PUTTEE LEGGINGS

Puttee Leggings, especially comfortable for any athletic sport, or for automobiling. Made of pig-skin, molded to shape, extra heavy fine stock with straps, which are wound around the limb and buckled at the top. Made in black or tan.

Price, per pair.....**$4.00**

Presto Overcoats

PRESTO-CONVERTIBLE COLLAR

The Presto Convertible Collar is the latest style in Automobile coats. The above illustration shows how the collar can be turned down for dress purposes or up for automobile driving. We carry a full line of Presto Coats at all times and owing to the many changes of style, goods and patterns during a season our assortment is always strictly up-to-date.

"Hudson"—Presto Collar cravanetted wool cloth. Color, mixed gray and dark green; single-breasted, lap buttoned cuff. Excellent value **$15.00**

"Hudson A"—Same as above, but of better quality cloth. Unexcelled at the price.. **$20.00**

"Leland"—Presto Collar cravanetted wool. Color sage green, mixed gray and invisible plaid effect. Single breasted. An exceedingly high class coat..... **$25.00**

"Wellington"—Presto Collar, all wool; color dark gray, full lined, single breasted. Unsurpassed in quality and appearance..... **$30.00**

"Wellington A"—Same as above, but of heavier cloth **$35.00**

"Latham"—Presto Collar, high standing and military style; cravanetted cloth. Color, olive and dark; light weight; double breasted; very dressy..... **$30.00**

"Strand"—Presto Collar whip cord tweed. Color, tan. Single breasted military effect. Cravanetted **$32.50**

Ladies' Knitted Coats

LADIES' KNITTED COAT SWEATERS

No. 1694

No. 1694—Heavy fancy rib. Finest quality imported yarn, semi-shaped V neck, full fashioned sleeves, two pockets. A very popular long coat, 44-inches long. White only carried in stock; other colors to order. Sizes 34 to 44.

Price $8.00

No. 1684

No. 1684—Heavy fancy rib. Best imported Zephyr yarn, all fancy colors, white, silver corn, brown and green. Sizes 34 to 44.

Price $12.00

No. 1574

No. 1574—Same grade and style as 1573, except with additional watch pocket. All pockets with flaps and buttons, with high turn down military collar, 40 inches long. We carry white only in stock, but will be glad to make above coat in any color to order. Sizes 34 to 44.

Price $12.50

No. 1622

No. 1662—A first class Auto Coat, fancy close hard weave; heavy weight, with roll collar, cut-away front, fitted back, full cut sleeves, two lower pockets, one upper watch pocket, faced with fancy scalloped bound edge, large white pearl buttons, length 28 inches. Stock colors: Oxford, cardinal and white. Sizes 34 to 44.

Price $7.00

No. 1402

No. 1402—Ladies' 36-inch long coat, fancy weave, all wool, made in four colors, white, oxford, navy and cardinal. Sizes 34 to 44.

Price $7.50

Coats

KNITTED SWEATER COATS FOR MEN

No. 1360

No. 1360—Men's Auto Coat. Heavy weave, 4-inch collar, two pockets, made in all colors. Sizes 34 to 44.

Price $7.00

No. 1260

No. 1260—Men's Heavy Plain Knit Sweater Coat. Made of soft, pure worsted yarn, fancy bound front, two pockets. Stock colors: Plain white, plain oxford, plain navy, plain cardinal. Any color or combination of colors furnished on special order. Sizes 32 to 46.

Each $5.00

No. 1200

No. 1200—Men's Heavy Plain V Neck Sweater Coat. Made of pure wool. Colors: White, oxford, navy, cardinal and combination. Sizes 34 to 44.

Price $4.00

No. 590

No. 590—Men's Auto Jersey Coat, with 3-inch collar. Made in all colors; two pockets. Sizes 34 to 44.

Price $6.00

No. 1432

No. 1432—Fancy Jacquard Weave Roll Collar; shaped loose fitting, double breasted, pearl buttons, two pockets, length 28 inches. Made in the following plain colors: White, oxford and cardinal. Sizes 34 to 42.

Price $4.50

No. 1020

No. 1020—Men's Sweater Coat. Plain weave. All solid colors. No pockets. Sizes 34 to 40.

Price $3.00

No. 1010

No. 1010—Men's Sweater Coat, plain weave, mixed garment, medium weight. A good coat for the price. Colors: Oxford trimmed in cardinal or navy. No pockets. Sizes 34 to 40.

Price $2.50

Caps and Hats

No. 10. CRUSHER HAT

Silk crash, flat crown, colors, tan, gray and olive.

Price $2.50

No. 18. CLOTH CAP

Gray and light brown.

Price $2.00

No. 22. LEATHER-TRIMMED CAP

Gray cravenette cloth.

Price $2.50

GOLF CAP

Soft woolen, golf effect; colors, gray, green, brown, tan, plaid and mixed stripe effect.

Price $1.50

RACING CAP

Made of cravenette cloth in colors brown and tan.

Price $2.00

No. 12. BLACK SILK CAP

No. 12. French Chauffeur, black silk, patent leather visor, sets close to the eyes. **Price**..... $2.00

No. 14. Same style, made of tan cravenette. **Price** $2.00

No. 16. Same style, made of Roseberry cloth. **Price**..... $2.50

No. 20. LEATHER CAP

Comes in black or tan, fine leather, 3-button ear flap.

Price $2.50

No. 24. ALL-FELT CRUSH HAT

Light gray and brown.

Price $2.75

No. 26. MIXED TWEED CRUSH HAT

Light and dark gray mixed.

Price $2.75

Gloves

No. 1040

GAUNTLET GLOVES

(Not Illustrated.)

Seamless palm, military cuff with extension gore and lap, length of cuff, five and one-half inches; circumference nineteen inches, readily slipping over overcoat sleeve. Colors, brown and black colt skin.

Price, pair.. .. ..**$3.50**

No. 087 GAUNTLET GLOVE

Large saddle leather shell cuff, silk faced, adjustable wrist strap, seamless palm, length of cuff, six and one-half inches; circumference, eighteen inches. Comes in brown and black colt skin.

Price, pair.....**$4.00**

No. 547 GAUNTLET GLOVE

Seamless palm, medium cuff with gore. Extra value and one of our best sellers. Colors brown and black horsehide.

Per pair.....**$3.75**

FLEECE-LINED GLOVES

Carried in various styles.

Prices, per pair, from **$3.00** to **$6.00**

WRIST GLOVE

Short Without Gauntlet
(Not Illustrated.)

Tan or black color, horsehide.

Price, pair.....**$2.50**

No. 1010 CARSON GAUNTLET

Made of tan or black color horsehide. Pliable gauntlet.

Price **$3.00**

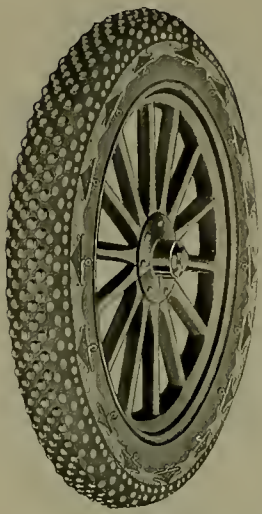
No. 541 GAUNTLET GLOVE

Patent Kantryp style, seamless palm, turtle neck cuff—length of cuff with extension wrist, seven inches. Colors brown and black colt skin.

Price, pair..... .....**$3.50**

In addition to the above illustrated gloves we carry a varied assortment at all times in keeping with the many changes and styles of a season

Woodworth Treads

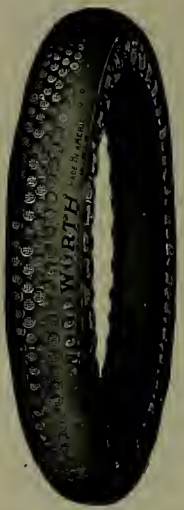


Size	Price ea.
28 x 3	10.75
30 x 3	11.75
32 x 3	12.75
34 x 3	13.75
36 x 3	14.75
28 x 3½	13.25
30 x 3½	14.50
32 x 3½	15.75
34 x 3½	17.00
36 x 3½	18.25
30 x 4	17.00
31 x 4	17.75
32 x 4	18.50
33 x 4	19.25
34 x 4	20.00
36 x 4	21.50
32 x 4½	21.00
34 x 4½	22.75
35 x 4½	23.75
36 x 4½	24.50
34 x 5	25.25
36 x 5	27.25

WOODWORTH SELF-ADJUSTING TREAD

In appearance the Self-Adjusting Tread is much neater than the Adjustable, the absence of the buckles and straps adding much more finish and style to the outfit. Made up of two layers of toughest chrome leather with a triple thickness of the new, heavy, closely-woven Egyptian fabric in between them. The Self-Adjusting Tread can be easily applied by anyone. It is only necessary to deflate the tire, place the tread without the wires in position on it, put the wires in place in the hooks and reinflate the tire. A tag is sent with each tread explaining just how to apply it.

This tread does not cover the rim and does not have to be removed to take the tire from the rim.

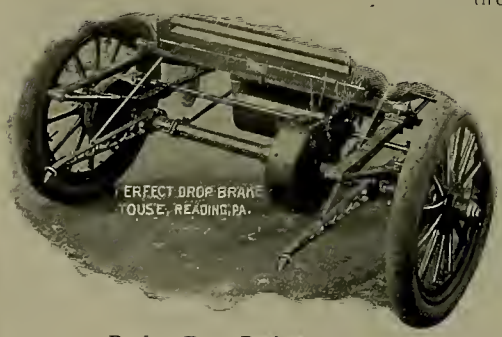


Size	Price ea.
28 x 3	11.00
30 x 3	12.00
32 x 3	13.00
34 x 3	14.00
36 x 3	12.25
28 x 3½	13.50
30 x 3½	14.75
32 x 3½	16.00
34 x 3½	17.25
36 x 3½	15.00
30 x 4	16.00
31 x 4	16.50
32 x 4	18.00
34 x 4	19.50
36 x 4	18.00
32 x 4½	19.75
34 x 4½	21.50
36 x 4½	21.00
34 x 5	23.00
36 x 5	25.00

WOODWORTH ADJUSTABLE TREAD

This tread can be adjusted by means of buckles and straps which loop over two strong, waived wires, one on each side of the Tread. The Tread is very easy to attach and very easy to adjust. It requires from thirty to forty minutes to buckle and adjust the straps when first the Tread is put on, but once adjusted it can be quickly removed by simply unbuckling a few of the straps of the inner side so that the wire may be unhooked. When this is done the wire is slack enough to permit of the Tread being removed from the tire. When the Tread is reapplied it is only necessary to rehook the wire and rebuckle the half-dozen straps.

This Tread can be fitted to solid or filled tires as well as to pneumatic tires.



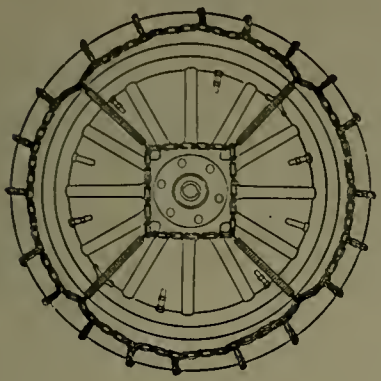
Perfect Drop Brakes

THE PERFECT DROP BRAKE

The Perfect Drop Brake insures absolute safety to the automobilist when ascending hills or mountains. If brakes are lowered upon the approach of an incline, they are guaranteed to absolutely hold the car in perfect safety, should it get stalled, until again ready. Operated from the seat.

Size		Pair
28"—30"—32"	Wheels	$4.00
34"—36"	Wheels	5.00

Chain Tire Grips—Mud Hooks



CHAIN TIRE GRIPS

Showing Also Adjuster

CHAIN TIRE GRIPS

Chain Tire Grips are known the world over. They give positive traction and will prevent slipping or skidding on asphalt pavements, in mud, snow or ice.

This is not an experiment. It has been tried out by the hardest drivers in this and foreign countries for the past four years and has given perfect satisfaction.

Can be applied in a few minutes. When not in use can be rolled up and placed in bag. Makes a compact package which can be stored away in a small amount of space.

Can be used equally well on pneumatic or solid rubber tires.

Constructed throughout from the best material obtainable. Side chains and connecting hooks are galvanized to prevent rusting. The cross chains are especially treated to reduce the wear. Each pair of grips furnished in a neat canvas bag.

Dunlop 3, 4 and 5 inch tires require grips one size longer, as do Fisk 28x3, and Bailey and similar treads.

Price List

Size.	Per Pair.					
28x2½	$5.00	30x4	8.50	33x5	10.50
30x2½	5.50	31x4	9.00	34x5	10.50
28x3	6.50	32x4	9.00	35x5	11.00
30x3	7.00	33x4	9.50	36x5	11.00
32x3	8.00	34x4	9.75	37x5	12.00
34x3	9.50	35x4	10.00	38x5	14.00
36x3	9.75	36x4	10.00	34x5½	13.00
28x3½	6.50	30x4½	8.50	35x5½	14.00
29x3½	7.00	31x4½	9.00	36x5½	14.00
30x3½	7.00	32x4½	9.00	37x5½	15.00
31x3½	8.50	33x4	10.00	38x5½	15.00
32x3½	8.50	34x4½	10.00	34x6	14.00
33x3½	9.50	35x4½	10.50	35x6	15.00
34x3½	9.50	36x4½	10.50	36x6	15.00
35x3½	10.00	37x4½	13.00	37x6	16.00
36x3½	10.00	32x5	10.50	38x6	16.00

REPAIRS

GROSS CHAINS COMPLETE

	2½"	3"	3½"	4"	4½"	5"	5½"	6"
Each ..	5c	7c	8c	9c	10c	12c	15c	18c

SIDE CHAIN

Price, per foot.....$0.10

Connecting Hook, each..... .20

CHAIN ADJUSTER

The Adjuster is easily attached by simple snaps in a few seconds, and by the action of the four springs keeps the Grip at just the right tension.

Complete in boxes all sizes.

Price, per pair.....$1.00

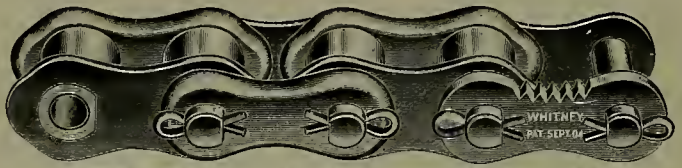
EMERGENCY MUD HOOKS

One on each wheel, we guarantee, will get you out of the mud, sand or snow when everything else fails. They can be put on when the wheel is in the deep mud, and they are sure to get you out. When you are out take them off.

For long stretches of mud or deep sand, two or three sets can be used to good advantage. Every tourist should carry a set. They are malleable iron; cannot break; weight, 5 lbs. per set. Will fit any size tire from 3½ to 6 inches.

Price, per pair, any size with four straps $2.50

"Whitney" Roller Chains



"WHITNEY" ROLLER CHAIN, DETACHABLE TYPE

All links on one side are riveted and all links on the opposite side are detachable. One link only is the "Connecting Link," this being distinguished from the others by notches in the top surface.

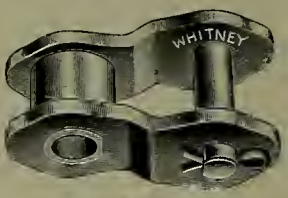
The Riveted parts may be used in the Detachable Chains and the Detachable Parts may be used in the Riveted Chains.

Price List

Pitch	Diam. of Roll	Width of Roll	Chain Number	Chain per Foot	Assembled Center Block	Connecting Link	Special Bronze Cotter Pins, per 100	Offset Link
¾"	⅛ W	1/16	101	$0.97	$0.15	$0.15	$0.44	$0.30
	5/32 W	⅛	102 & 202	.97	.15	.15	.44	.30
	⅛ W	1/12	103 & 203	1.00	.15	.17	.44	.30
	3/16 W	5/32	104 & 204	1.10	.15	.17	.44	.30
1"	5/16 W	3/16	5	1.00	.15	.15	.48	.30
	5/16 W	1/12	6 & 206	1.00	.15	.15	.48	.30
	5/16 W	5/32	7 & 207	1.15	.15	.17	.48	.30
	5/16 W	¼	208	1.20	.20	.20	.48	.40
	⅜	⅛	105	1.00	.15	.15	.48	.30
	⅜	1/12	106 & 406	1.00	.15	.15	.48	.30
1⅛"	17/32	5/16	93 & 94	1.25	.15	.20	.59	.40
1¼"	¾ W	½	10	$1.25	$0.20	$0.20	$0.60	$0.40
	¾ W	5/16	11 & 211	1.25	.20	.20	.60	.40
	¾ W	¾	12 & 212	1.45	.20	.20	.60	.45
	5/8	½	70 & 470	1.25	.20	.20	.50	.40
	5/8	5/8	71 & 471	1.25	.20	.20	.50	.40
1½"	7/8 W	5/8	15	1.65	.25	.25	.65	.50
	7/8 W	¾	16 & 216	1.65	.25	.25	.65	.50
	7/8 W	1	17 & 217	1.85	.35	.30	.65	.50
	¾	5/8	75	1.65	.30	.25	.60	.50
	¾	¾	76	1.65	.30	.25	.60	.50
1¾"	1W	1	20 & 220	2.10	.45	.35	.75	.65
2"	1⅛ W	1¼	30 & 230	2.55	.65	.50	.85	.90

Connecting Link

Roller Link



Offset Repair Link

It will be noted that chain No. 7 and chain No. 207 are of the same pitch and the same diameter and width of roll. These two chains will therefore run on the same sprocket unless the sprocket hubs are so large in diameter that they would come in contact with the edges of the deeper side links of chain No. 207. Chain No. 7 is of course lighter than chain No. 207 and is in every way as efficient as chain No. 207 except for extra severe duty, where the increased strength obtained by the deeper links is an advantage. This explanation applies to chains (Nos. 103 and 203) (Nos. 106 and 406) (Nos. 12 and 212) (Nos. 17 and 217), etc.

When ordering, give model and year make of car, if you do not know the size of chain wanted.
N. B.—Chains ranging from 1½-inch to 2-inch pitch are for use on commercial trucks.

WHITNEY CHAIN REPAIR TOOL

For Whitney Detachable Chains. Made of the very best tool steel highly finished. A very necessary tool for every garage. Made in two sizes to fit chains 1-inch and 1¼-inch pitch.

No. 1—Pitch 1 in. Price, each.....**$2.25**
No. 2—Pitch 1¼ in. Price, each..... **2.50**

Diamond and Baldwin Chains

Diamond Connecting Link

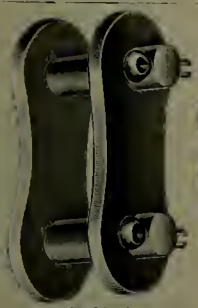
DIAMOND DETACHABLE CHAINS

The New Diamond Detachable Chain is the best and most scientific detachable type chain. The locking spring, made of special tempered spring steel, will not wear off or become detached. The detachable repair link spring, one in each chain, is the same as others, but is coppered to distinguish the looser link from those which are forced on. Diamond Detachable Chain parts and Diamond Riveted Chain parts are interchangeable.

Price List

Chain Number	Pitch	Diam. of Roll	Width of Roll	Chain per Foot	Assembled Center Block	Connecting Link	Offset Link
155	1	5/16	½ or 3/8	$1.00	$0.20	$0.20	$0.50
155	1	5/16	5/8	1.15	.20	.20	.50
156	1	5/8	½	1.00	.20	.20	.50
154	1	5/8	5/8	1.15	.25	.25	.50
151	1¼	5/8	5/8 or ½	1.25	.30	.30	.60
152	1¼	3/4	5/8	1.25	.30	.30	.60
152	1¼	3/4	3/4	1.45	.30	.30	.60
157	1½	3/4	3/4	1.65	.45	.40	.85
157	1½	3/4	1	1.85	.45	.40	.85
158	1½	7/8	3/4	1.65	.45	.40	.85
158	1½	7/8	1	1.85	.45	.40	.85
159	1¾	1	1	2.10	.60	.60	1.30
167	2	1⅛	1¼	2.55	.85	.70	1.60

Diamond Block



Baldwin Conn. Link

BALDWIN NEW DETACHABLE CHAIN

Is superior in mechanical design to any ever offered the trade. The clips "A" will not come off nor break off.

These fasteners "A" fit into the groove "B" and are closed with a pair of pinchers. They can be removed with the aid of a screw-driver or a special tool, which is furnished with every chain. They can be used several times without breaking.

Price List

Chain Number	Pitch	Diam. of Roll	Width of Roll	Chain per Foot	Assembled Center Block	Connecting Link	Offset Link
13	1	5/16	½	$1.00	$0.20	$0.20	$0.50
14	1	5/8	½	1.00	.20	.20	.50
15	1	5/8	5/8	1.15	.25	.25	.50
16	1¼	5/8	½	1.25	.30	.30	.60
17	1¼	5/8	5/8	1.25	.30	.30	.60
18	1¼	3/4	5/8	1.25	.30	.30	.60

BLOCK CHAINS

Number	Pitch Inches	Width of Block Inches	Per Ft.
4 Olds	1 5/8	½	$1.15
6 Reo	1 3/4	5/8 or 3/4	1.50

Baldwin Block

Drain Cocks and Priming Cups

Fig. 476
Tee Handle and Hexagon

LUNKENHEIMER DRAIN AND GASOLINE COCKS

The keys are carefully ground in the bodies, are well finished and can be positively relied upon.

Fig. 477
Tee Handle, Double End

Price List

Number	1	2	3
Size of Pipe, Thread, inch	⅛	¼	⅜
T. H. and Hexagon Air Cock, Fig. 476, each	$0.25	$0.30	$0.35
T. H. Double End Air Cock, Fig. 477, each	.30	.40	.50
T. H. Female Ends, Fig. 474, each	.40	.50	.60
T. H. Male and Female Ends, Fig. 475, each	.40	.50	.60

Fig. 474
Female Ends, Tee Handle

Fig. 475
Male and Female Ends, Tee Handle

COMBINED PRIMING CUPS AND RELIEF COCKS FOR GASOLINE ENGINES

They not alone serve the purpose of priming the engine, but by opening same when starting the engine, they relieve the compression, making it considerably easier to operate. They will at all times positively remain tight, owing to the substantial spring at the bottom of the key, which will immediately take up any wear of same.

No. 3 E
No. 4 E

Fig. 821

TEE HANDLES

Price List

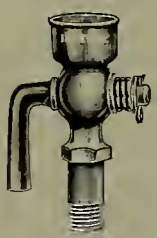
No.	Each
Fig. 821—Long Shank, ⅛ I. P. Thread	$0.50
Fig. 821—Long Shank, ¼ I. P. Thread	.60

No. 5E and 6E

No. 11E and 12E

PLAIN LEVER HANDLES

3E—Short Shank, ⅛" I. P. Thread	$0.40
4E—Short Shank, ¼" I. P. Thread	.40
5E—Short Shank, ⅛" I. P. Thread	.40
6E—Short Shank, ¼" I. P. Thread	.50
7E—Long Shank, ⅛" I. P. Thread	.40
8E—Long Shank, ¼" I. P. Thread	.50
11E—Angle Shank, ⅛" I P. Thread	.40
12E—Angle Shank, ¼" I. P. Thread	.50



No. 7E and 8E

No. 9E and 10E

FORKED LEVER HANDLES

9E—Long Shank ⅛" I. P. Thread	.50
10E—Long Shank, ¼" I. P. Thread	.50
13E—Short Shank, ⅛" I. P. Thread	.50
14E—Short Shank, ¼" I. P. Thread	.50

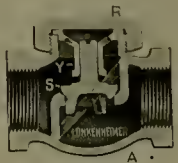
Valves—Brazing Unions—Shut-off Cocks

LUNKENHEIMER NEEDLE VALVE

Pipe size	⅛	¼
Globe or Angle, female ends	$0.65	$0.75
Cross Valve, female ends	.95	1.25
Globe or Angle, Union on one end	.80	.95
Cross Valve, female Union one end	1.10	1.45

No. 739 Angle

No. 740 Vertical



No. 414 Ground Seat
No. 416 Ball Seat
Horizontal Valves

LUNKENHEIMER BALL CHECK VALVES

Guaranteed for working pressure up to 200 lbs.

Size pipe thread	⅛	¼	⅜	½
No. 739 Angle	$0.85	$0.95	$1.10	$1.60
No. 740 Vertical	.85	.95	1.10	1.60
Nos. 414 & 416 Horizontal	.85	.95	1.10	1.60

BRAZING UNIONS FOR COPPER AND BRASS TUBING

No. 350
Lunkenheimer
Unions

No. 350 has both ends drilled for tubing.

No. 217 has male pipe thread at one end and is drilled for tubing at the other. Sizes are governed by the outside diameter of tubing the brazing end is made to fit.

Price List — No. 350

Size, inch	3/16	¼	5/16	⅜
Finished Brass, No. 350, each	$0.15	$0.17	$0.20	$0.35

No. 217

Size brazing end, inch	3/16	¼	5/16	⅜
Size pipe end, inch	⅛	⅛	⅛	¼
Finished Brass, No. 217, each	$0.20	$0.25	$0.35	$0.40

No. 217
Lunkenheimer
Unions

GASOLINE SHUT-OFF COCKS

No. 27E

Gasoline Shut-off Cocks may be used to advantage in many places on an automobile, but are specially intended for use in the gasoline pipe line between the gasoline tank and carburetor, for closing off the gasoline supply.

Price List

No.		Each
27E	¼" O. D. tubing, ⅛" I. P. thread	$0.65
28E	¼" O. D. tubing, ¼" I. P. thread	.65
45EF	¼" O. D. tubing, ⅛" I. P. thread	.50
45EF	¼" O. D. tubing, ¼" I. P. thread	.50

No. 45EF

No. 75F
L Relief Valve

COMPRESSION RELIEF FITTINGS

Compression Relief Fittings are inserted in the oil lines leading from oil pump to the cylinders on engines, where the turning of the injection of oil is important. They should be installed on the highest point of the oil pipe and opened occasionally to allow air to escape.

Price List

No. 74F, each	$0.40
No. 75F, each	.40

No. 74F
Straight Relief Valve

Compression Couplings

No. 62F Sectional

No. 62F Complete (Section)

The Imperial Compression Coupling provides a new, cheaper and better method of coupling or connecting brass, copper, aluminum or steel tubing as used on gasoline engines, automobiles, motor boats, etc., particularly for connecting up tubing used on the gasoline and oil lines.

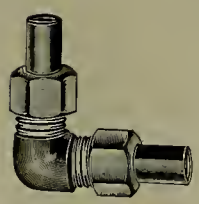
No soldering or flaring out of the tubing required, no threading necessary; simply cut off the tubing and tighten up the nut; ninety per cent saving in time, fifty cents to one dollar saved on every car, boat or engine. Joints can be quickly made by anyone.

Price List Each, Complete
(Including Nuts and Sleeves)

Figure	Article	For Outside Diameter Tube $\frac{1}{8}$ in.	$\frac{1}{4}$ in.	$\frac{5}{16}$ in.
62F	Union—tubing both ends	$0.15	$0.15	$0.25
63F	Check Valve—tubing one end, pipe thread one end $\frac{1}{8}$ in. I. P. thread.	.20	.20	.25
64F	Tee—tubing three ends	.20	.25	.25
65F	Elbow—tubing both ends	.15	.20	.25
66F	Bushing—tubing one end, pipe thread one end $\frac{1}{8}$ in. I. P. thread.	.15	.15	.15
67F	Bushing—tubing one end, pipe thread one end $\frac{1}{4}$ in. I. P. thread.	...	...	.15
68F	Connector—tubing one end, pipe thread one end $\frac{1}{8}$ in. I. P. thread.	.15	.15	.15
69F	Elbow—tubing one end, male pipe thread one end $\frac{1}{8}$ in. I. P. thread.	.15	.15	.20

Solder and Brazing Connections—Brass

For $\frac{1}{4}$-inch Outside Diameter Brass or Copper Tubing



25F

21F

20F

23F

22F

These fittings are carefully machined of the best quality of brass and when soldered or brazed to $\frac{1}{4}$-inch outside diameter tubing form an absolutely tight joint that will not break or jar loose.

SOLDER CONNECTORS—BRIGHT BRASS
For $\frac{1}{4}$-inch Outside Diameter Tubing

No.	Article	Thread	Each
20F	Female Connector	$\frac{1}{8}$-inch I. P.	$0.20
21F	Male Connector	$\frac{1}{8}$-inch I. P.	.20
22F	Elbow	$\frac{1}{8}$-inch I. P.	.25
23F	Coupling		.20
25F	Elbow, 8 tubing ends		.30
26F	Tee, 3 tubing ends		.30
31F	Check Valve	$\frac{1}{8}$-inch I P.	.40

Brass Fittings—Chain Tools

100

101

102

103

104

105

108

109

110

111

112

113

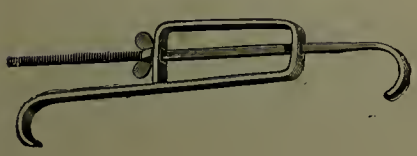
114

115

POLISHED BRASS FITTINGS, IRON PIPE THREAD

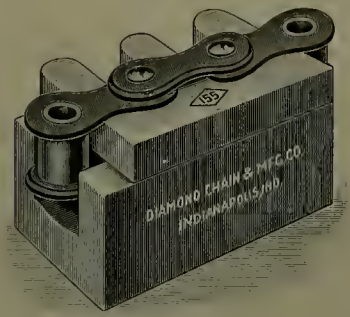
No.	Articles	1/8	1/4	3/8	1/2
100	Elbows	$0.20	$0.25	$0.30	$0.40
	Elbows, Reducing	.....	.30	.40	.50
	Elbows, 45°	.....	.30	.40	.50
101	Tees	.20	.30	.40	.50
	Tees, Reducing	.....	.40	.50	.60
102	Crosses	.30	.40	.50	.60
	Crosses, Reducing	.....	.50	.60	.80
105	Return Bends, open	.....	.....	.50	.60
	Return Bends, closed	.....	.....	.50	.50
103	Couplings	.15	.20	.25	.40

No.	Articles	1/8	1/4	3/8	1/2
103	Coupling, R. & L.	.....	$0.25	$0.25	$0.40
	Coupling, Reducing	.....	.25	.30	.40
110	Bushings	.....	.15	.15	.20
111	Locknuts	.....	.15	.15	.20
109	Plugs	.15	.15	.15	.20
108	Caps	.20	.20	.30	.40
112	Nipples, close	.10	.10	.15	.15
104	Unions, ground joint	.20	.25	.40	.50
114	Street Elbow	.40	.40	.50	.50
115	Street Elbow special	.40	.40	.50	.50



CHAIN ADJUSTING TOOL

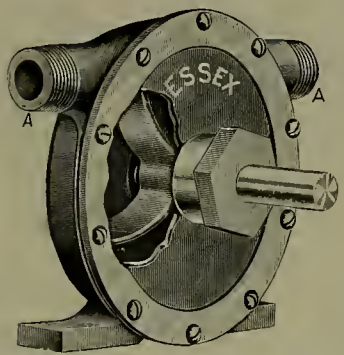
A handy tool for repairing any chain.
Price, each **$0.30**



DIAMOND REPAIR BLOCK

For chain...	1x⅞	1x⅝	1¼x⅝	1¼x¾
Price, each..	**$1.85**	**$1.85**	**$2.25**	**$2.25**

Pumps—Hose—Fire Extinguishers—Locks

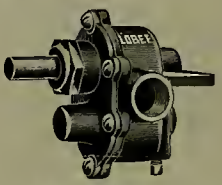


ESSEX CENTRIFUGAL PUMP

Circulating water pump. Made entirely of brass; will not corrode. Made with either ¾ male or ½ in. female pipe connections. Diameter 5½ inches. Paddle wheel 4½x1 in., shaft ⅝ in.

Please specify when ordering male or female thread.

Price each.....$6.00



LOBEE GEAR PUMP

Constructed of bronze only, very durable and powerful. Used on the majority of American cars. Will pump in either direction. Made in two sizes. Capacity 100 revolutions per minute 1 gallon.

Price List

Size.	Capacity.	R. P. M.	Price.
½	1 gal.	100	$6.00
¾	1¾ gals.	100	7.50

RADIATOR HOSE

	Per Foot
¾ in. inside diameter, 4 ply	$0.65
1 " " " "	.85
1¼ " " " "	1.05
1½ " " " "	1.25
2 " " " "	1.65
2¼ " " " "	1.85
2½ " " " "	2.10
3 " " " "	2.80

MANVILLE FIRE EXTINGUISHER

Invaluable in case of fire. Will immediately extinguish any blaze and without injuring the car. Convenient size for carrying. Length 22 inches. Packed in cartons with hook for hanging on garage wall.

Price, each.....$2.00

ANGELUS BRAKE LOCK

Prevents your car being stolen. Positive, sure, thief-proof and saves automobile insurance. Instantly applied and easily detached. When on the car it cannot be pushed, run or pulled.

Price $1.50

Hack-Saw Frames, Blades, Files, Soldering Iron, Solder, Wire Brush

HACKSAW FRAMES

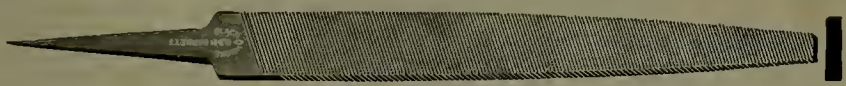
This frame is adjusted to saws of length from 8 to 12 inches. This frame has the improved spring pawls which securely hold the frame for saws of various lengths.

Price, each $1.50

HACKSAW BLADES

Hacksaw Blades. Made especially for automobile use; small teeth, perfectly set.

Length of blades, in...	8	9	10	12
Universal Tubing Saw.				
Price, per dozen.....	$0.50	$0.75	$0.90	$1.00

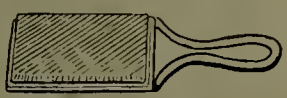


FILES

Price List of Files

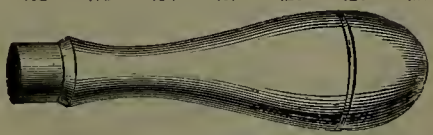
Inches	4	6	8	10	12	14
FLAT—						
Bastard	$0.17	$0.20	$0.24	$0.35	$0.44	$0.60
Second Cut	.20	.22	.30	.37	.50	.70
MILL and ROUND—						
Bastard	.14	.15	.20	.25	.34	.48
Second Cut	.15	.18	.22	.29	.38	.55
HALF-ROUND and 3-SQUARE—						
Bastard	.22	.28	.33	.41	.53	.70
Second Cut	.25	.30	.37	.45	.58	.75
SQUARE—						
Bastard	.17	.20	.25	.34	.46	.63
Second Cut	.20	.23	.29	.38	.51	.72
WARDING—						
Bastard	.18	.22	.30	.37	.56	.77
Second Cut	.23	.26	.33	.45	.65	.88
KNIFE—						
Bastard	.24	.31	.39	.45	.61	.82
Second Cut	.28	.33	.41	.51	.68	.90

Inches	3	3½	4	4½	5	5½	6	6½	7	7½	8
TAPERS—											
Single Cut	$0.10	$0.10	$0.11	$0.11	$0.12	.14	.16	.18	.25	.30	.37
SLIM TAPERS—											
Single Cut	.10	.10	.11	.11	.12	.13	.14	.17	.21	.21	.30



FILE CARDS

Price, each $0.25



FILE AND SOLDERING IRON HANDLES

Price, each $0.10

SOLDERING IRONS

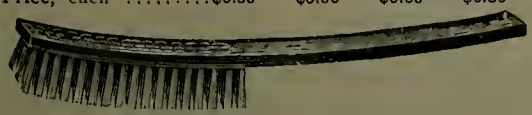
Weight, lbs.	½	¾	1	1½
Price, each	$0.35	$0.50	$0.65	$0.80

SOLDER

10-gauge Wire Solder, per lb...$0.45

SOLDERING PASTE

2-oz. cans, each...$0.15



WIRE CLEANING BRUSH

Price, each $0.35

These wire brushes will be found convenient for cleaning engines or parts where grease, soot or dirt accumulate and harden and where the ordinary brush is not effective. 3 rows round tempered steel wire, 11/8 inches long.

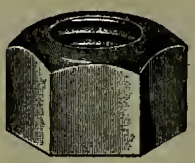
Cap Screws, Nuts, Cotter Pins, Lock Washers, Taper Pins

HEXAGON CAP SCREWS

Price per Hundred

	Diam. Head...	7/16	1/2	9/16	5/8	3/4	13/16	7/8	1
	Length Head.	1/4	5/16	3/8	7/16	1/2	5/8	5/8	3/4
	Threads, in...	20	18	16	14	12	12	11	10
	Diam. Screw..	1/4	5/16	3/8	7/16	1/2	5/8	3/4	
Length	3/4	$3.00	$3.25	$3.75	$4.50	$5.70	.....	.....	.....
	7/8	3.15	3.40	3.90	4.70	5.80	.....	.....	.....
	1	3.25	3.50	4.00	4.90	5.90	$ 9.25	$ 9.25	.....
	1 1/4	3.50	3.75	4.25	5.30	6.50	9.50	9.50	$12.50
	1 1/2	3.75	4.00	4.50	5.70	7.10	10.00	10.00	13.50
	1 3/4	4.00	4.25	4.85	6.10	7.70	10.75	10.75	14.50
	2	4.25	4.85	5.20	6.50	8.30	11.50	11.50	15.50
	2 1/4	4.70	5.35	5.55	7.15	8.90	12.60	12.60	16.50
	2 1/2	5.25	5.80	6.00	7.50	9.50	13.60	13.60	17.50
	Add for each 1/4	.....	.....	.....	.70	.80	1.30	1.30	1.60

HEXAGON NUTS



Diameter	Thickness	Size of Bolt	Semi-finished Hexagon Nuts: Number of Threads	Price Per 100
1/2	1/4	1/4	20	$2.00
9/32	5/16	5/16	18	2.50
11/32	3/8	3/8	16	3.25
25/32	7/16	7/16	14	3.75
7/8	1/2	1/2	13 or 12	4.50
31/32	9/16	9/16	12	5.50
1 1/16	5/8	5/8	11	6.50

COTTER PINS

Price, per Thousand

Size	1/16	3/32	7/64	1/8	9/64	5/32	3/16	13/64
1/2	$1.05	$1.10	$1.20	$1.50	$1.80	$2.10	.....	.....
3/4	1.25	1.30	1.42	1.75	2.10	2.45	3.33	3.60
1	1.44	1.55	1.65	2.00	2.40	2.80	3.84	4.20
1 1/4	1.63	1.70	1.87	2.25	2.70	3.15	4.35	4.80
1 1/2	1.83	1.90	2.10	2.50	3.00	3.50	4.86	5.40
1 3/4	.....	2.05	2.30	2.75	3.30	3.85	5.37	6.00
2	.....	2.22	2.55	3.00	3.60	4.20	5.88	6.60
2 1/4	.....	.....	.....	3.30	3.90	4.50	6.39	7.20
2 1/2	.....	.....	.....	3.55	4.20	4.85	6.90	7.80

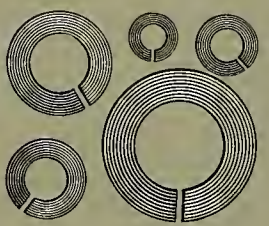
ASSORTED BOXES

Cotter Pins, Lock Washers, Taper Pins, Cap Screws and Nuts

Put up especially for automobile owners in metal-hinged cover boxes and in complete assortment of sizes most generally used on cars. The complete set of five is a very useful outfit to carry on trips.

Price List

Cotter Pins. Per box, assorted	$0.15
Lock Washers. Per box, assorted	.50
Taper Pins. Per box, assorted	.75
Cap Screws. Per box, assorted	.40
Hex. Nuts. Per box, assorted	.40
Complete Set of Five Assortment	1.75



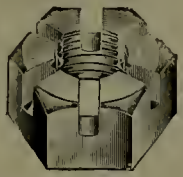
LOCK WASHERS IN BULK

Made especially for automobile work. They are thin, especially in the small sizes, so that they do not crowd for room, and are strong and durable. All of the important nuts on a car should always be secured with these lock washers to make sure of their staying tight.

Size		Per 100
5/16 inch	Lock Washers	$0.80
1/4 inch	Lock Washers	.80
5/16 inch	Lock Washers	.80
3/8 inch	Lock Washers	.80
7/16 inch	Lock Washers	.90
1/2 inch	Lock Washers	.90
5/8 inch	Lock Washers	1.00
3/4 inch	Lock Washers	1.20
7/8 inch	Lock Washers	1.30
1 inch	Lock Washers	1.40

Screw Plates—Drill—Castellated Nuts

Very Best Quality



All Are Standard A. L. A. M. Sizes and Case Hardened

Price List

3/16 x 24, each	2½c
1/4 x 24, "	3c
5/16 x 20, "	4c
1/2 x 20, "	5c
5/8 x 18, "	6c

Or assorted (15 nuts in tin box, as above), per box 50c

WHITNEY KEYS
100 Assorted
(Woodruff Pattern)

The Woodruff patent system of keying is used extensively on cars, and the demand for new keys will make these sets invaluable to garage owners.

Price, per box $3.25

Fitted with Taps and Dies A. L. A. M. Standard Threads

A Valuable Addition to Every Repair Shop

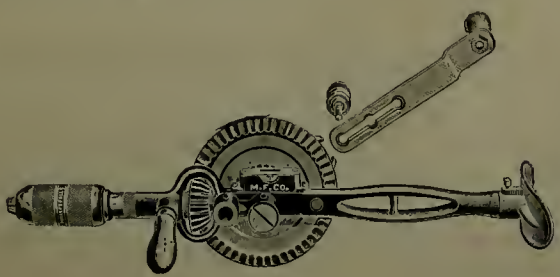
AUTOMOBILE SCREW PLATES

No. 25—1½-inch Dies, with Taps, Stock and Wrench, cutting $\frac{1}{4}^{28}$, $\frac{5}{16}^{24}$, $\frac{3}{8}^{24}$, $\frac{7}{16}^{20}$, $\frac{1}{2}^{20}$, U. S. S. $12.00

No. 35—With two Die Holders, cutting eleven sizes, $\frac{1}{4}^{28}$, $\frac{5}{16}^{24}$, $\frac{3}{8}^{24}$, $\frac{7}{16}^{20}$, $\frac{1}{2}^{20}$, $\frac{9}{16}^{18}$, $\frac{5}{8}^{18}$, $\frac{11}{16}^{16}$, $\frac{3}{4}^{16}$, $\frac{7}{8}^{14}$, 1^{14} 28.00

Tap Wrenches fitting all taps, free with each set.

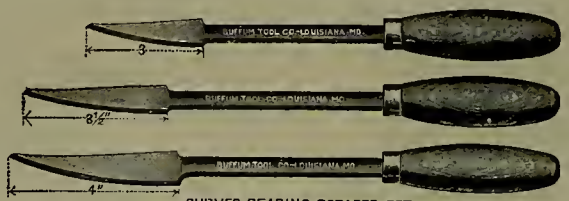
NOTE—Above sets are U. S. Standard shape in form of thread, but not in number.



No. 10. BREAST DRILL

Price, each $4.00

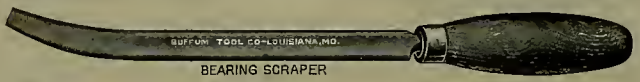
Bearing Scraper—Carbon Scrapers—Cotter Pin Tools



CURVED BEARING SCRAPER SET

CURVED BEARING SCRAPERS

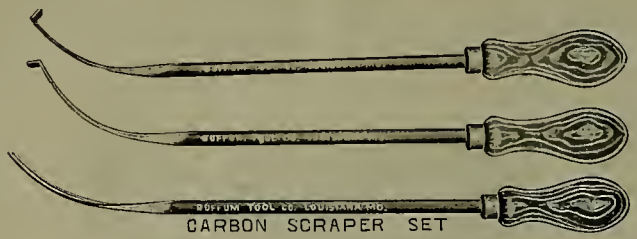
Price, per set, complete in wood box..... $2.00



BEARING SCRAPER

FLAT AND THREE-CORNERED BEARING SCRAPERS.

Each $0.35



CARBON SCRAPER SET

Price, per set $1.25

COTTER PIN SETTER AND EXTRACTOR

A tool to insert Cotter pins in places impossible to reach with pliers.

Price $0.50

No. 1 COTTER PIN EXTRACTOR

6 in. Polished, one end pointed, the other flattened for Cotter pins $0.25

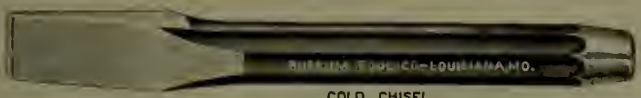
No. 2 COTTER PIN EXTRACTOR

6 in. Polished, both ends pointed.....$0.25

No. 7 NOONAN'S COTTER PIN TOOL

Price, each..... $0.25

Chisels—Center Punches—Nail Sets

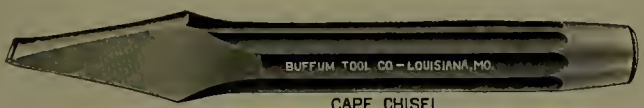


COLD CHISEL

COLD CHISEL

Made of high quality tool steel, perfectly hardened and tempered. Blue finish.

Size of Blade, inch	1/4	5/16	3/8	1/2	5/8	3/4
Price, each	$0.15	$0.20	$0.25	$0.25	$0.35	$0.50



CAPE CHISEL

CAPE CHISEL

Made from high grade tool steel. Perfectly hardened and tempered. Blue finish.

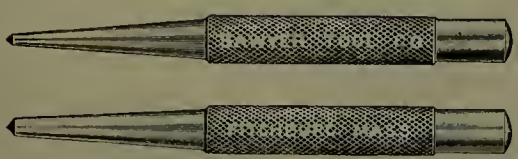
Size of Blade, inch	1/4	5/16	3/8	1/2	5/8	3/4
Price, each	$0.25	$0.25	$0.30	$0.35	$0.45	$0.50

MACHINISTS' CENTER PUNCH

Made of best octagon tool steel. Perfectly hardened and tempered. Blue finish.

Size of stock, inch	5/16	3/8	7/16
Price, each	$0.15	$0.20	$0.25

No. 10 Center Punches
Tool Steel.
Length 4 inches.
Stock 5/16 inch.
Assorted size tips.

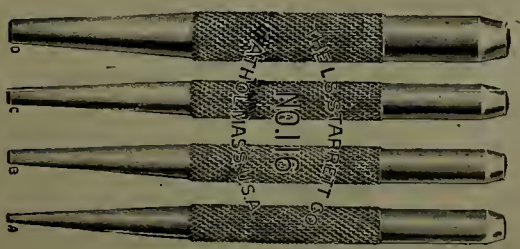


Sizes of No. 10 Center Punches
A—1/8 inch tip.
B—3/32 inch tip.
C—1/16 inch tip.
D—3/32 inch tip.

No. 10 CENTER PUNCHES

Price, any size tip, each	$0.15
Price, per set of four	.50

No. 1010 Cup Nail Sets
Tool steel.
Length 4 inches.
Stock 5/16 inch.
Assorted size tips

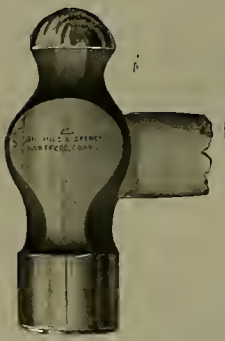


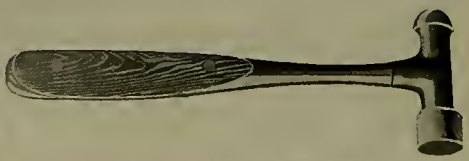
Sizes of No. 1010 Cup Nail Sets
A—5-64 inch tip.
B—3-32 inch tip.
C—9-64 inch tip.
D—5-32 inch tip.

No. 1010 CUP NAIL SETS

Price, any size tip, each	$0.15
Price, per set of four	.50

Hammers and Torches





PERFECT HANDLE HAMMER

Perfect hammer. Drop-forged head and handle one piece, highly finished. 10 inches long.

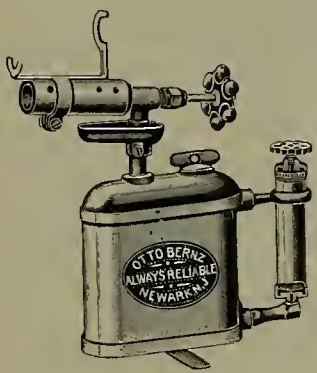
Price $1.00

B. & S. BALL PEIN

No. 106— 4 oz., each... $0.50
No. 107— 6 oz., each... .50
No. 108— 8 oz., each... .60
No. 109—12 oz., each... .60
No. 110—16 oz., each... .60

B. & S. RIVETING HAMMER

No. 101— 4 oz., each... $0.50
No. 102— 7 oz., each... .50
No. 103— 9 oz., each... .60
No. 104—12 oz., each... .60
No. 105—15 oz., each... .60

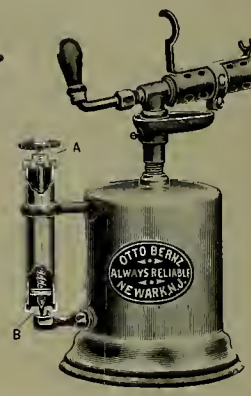


BERNZ FLAT AUTO TORCH No. 6

Capacity ..... 1 pint
Height ..... 9 inches
Diameter ..... 2 inches
Price, each—
With soldering iron attachment $4.50
Without soldering iron attachment 4.00

BERNZ BABY TORCH No. 7

Capacity ..... ¼ pint
Height over all.... 6½ inches
Diameter ..... 1¾ inches
Net weight..... 6 ounces
Burns 3 hours.
Price, each $1.25



BERNZ TORCH Nos. 3 and 4

No. 3

Capacity ..... 1 quart
Height ..... 10¼ inches
Diameter ..... 4 inches

No. 4

Capacity ..... 1 pint
Height ..... 7½ inches
Diameter ..... 3½ inches
Price, No. 3..... $4.00
Price, No. 4..... $3.75

BERNZ TORCHES

Torches are a great favorite with mechanics all over the country. Their high grade heat-producing qualities which have made them famous, are rigidly maintained, and as a result the purchaser can depend upon getting a torch that can be relied on for good work under all conditions. These styles are equipped with soldering iron holder and designed for all who have use for a gasoline torch in connection with the automobile or repair shop.

Auto-Cle and Pick-Up Wrenches

SMALL SET AUTO-CLE WRENCHES
Small, in leather case, 10 sockets.....$7.50

LARGE SET AUTO-CLE WRENCHES
Large, in wood box, 32 sockets.....$10.00

THE ADVANTAGES OF THE AUTO-CLE

Will fit any adjustable nut or bolt on any automobile

Has an universal attachment, permitting use at any angle. Avoids getting under machine. Long and short extension rods that reach spark plug, crank case or other inaccessable places. The large set consists of 32 sockets which are especially valuable for construction shop and repair work, as the sockets will fit any size nut or bolt on any automobile, motor or gas engine, whether American or foreign make cars. Small set has 10 sockets of various sizes and furnished in leather case size 3x2x10 inches, and is a desirable equipment for cars.

SMALL SET PICK-UP WRENCH
Packed in leather case containing fifteen sockets.
Price, per set.....$7.50

LARGE SET, PICK-UP WRENCH
Packed in wooden box and containing 32 sockets.
Price, per set.....$10.00

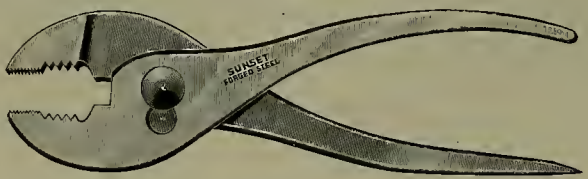
PICK-UP WRENCHES

An up-to-date, ratchet extension set for motorist, consisting of a ratchet wrench to fit standard hexagon and square nuts and bolts, caps and cap screws. A universial joint which permits the use of the wrench at any angle. Indispensable for the car.

Pliers

KNIGHT'S COMBINATION PLIERS

A combination plier, wire cutter, screw driver, cotter pin puller, and gas and air tank key.
6-inch, nickel plated, with leather case. Price, each $0.75
6-inch, nickel plated, without case. Price, each ..... .65

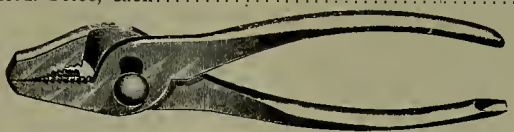


SUNSET COMBINATION PLIERS

A gas plier, wire cutter, wrench and screw driver combined. Nickel plated; made of drop forging, nicely finished; is adjustable to fit from ⅜ to ¾-inch gas pipes.
6-inch, nickel plated. Price, each $0.50

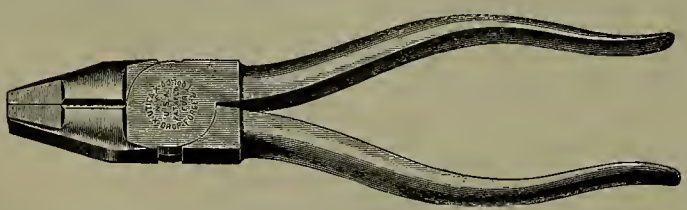
B. & S. COMBINATION PLIERS

Combination wire cutter and gas plier; made of drop forging, finely finished.
B. & S. 6-inch, nickeled. Price, each $1.00
B. & S. 8-inch, nickeled. Price, each 1.25
B. & S. 10-inch, nickeled. Price, each 1.75



VICTOR PLIERS

Nickel plated. Price, each $0.80



SIDE-CUTTING PLIERS

Made for cutting soft wire only. Jaws open ¼-inch; made of steel, drop forged. Very strong. Black finish. 5½ inches long.
Price, each $0.50

Screw Drivers

MACHINIST PERFECT HANDLE SCREW DRIVER

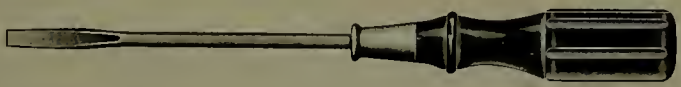
Auto size for extra heavy service, made in two sizes only.

No. 1— 9½ in. length over all. Blade, 4¼ in.
Diameter, 7/8 in. Price, each.....$1.00
No. 2—10¼ in. length over all. Blade, 5 in.
Diameter, 1 in. Price, each..... 1.25

PERFECT HANDLE SCREW DRIVER.

A solid, one-piece, drop forging. The oval-shaped wood handle gives greater leverage, fits the hand better and is more comfortable than the fluted round handles and other shapes. The end of the handle forms a hammer head, very useful. Is the most durable and substantial tool ever put on the market.

Blade length, inches	2	4	6	8	10	12
Diameter, inch	¼	¼	5/16	3/8	3/8	3/8
Price, each	$0.40	$0.40	$0.50	$0.70	$0.85	$1.00



CHAMPION SCREW DRIVER

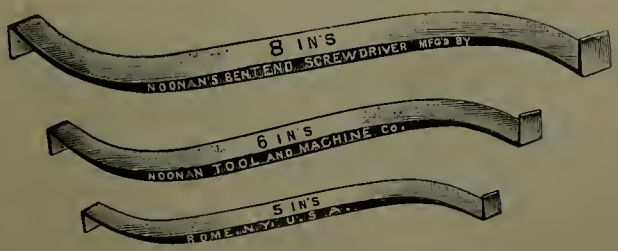
The blade is forged from the toughest steel, tempered with great care, supported by a heavy ferrule and plated, handle nicely finished; the strongest screw driver made.

Size, inches	1½	2	3	4	5	6	7	8	10	12
Price, each	$0.15	$0.15	$0.15	$0.20	$0.20	$0.25	$0.30	$0.35	$0.40	$0.50

No. 12. RACHET SCREW DRIVER

Made in one size only. For special use of gunsmiths, electricians and mechanics requiring a strong screw driver with a short stub blade; 5¾ inches long; blade 1/8x1⅛ inches long.

Price, each $0.60



NOONAN'S BENT END SCREW DRIVERS

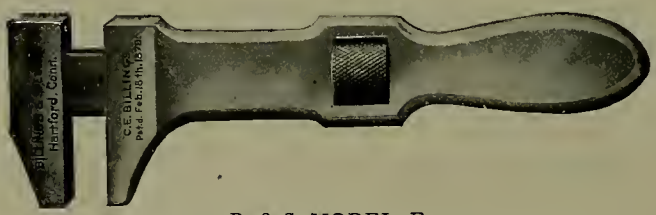
Made in sizes 5, 6 and 8 inches. Price, each, any size $0.40

Automobile Wrenches

B. & S. AUTO WRENCH

This wrench is made of drop-forged bar steel and case-hardened, carefully machined and fitted.

8-inch B. & S. Auto, Semi-finish, opens 1½ inches, weight 1 lb. Price, each..... **$1.00**
10-inch B. & S. Auto, Semi-finish, opens 2 inches, weight 2 lbs. Price, each..... **1.25**
14-inch B. & S. Auto, Semi-finish, opens 2½ inches, weight 4 lbs. Price, each..... **2.50**
18-inch B. & S. Auto, Semi-finish, opens 3 inches, weight 7 lbs. Price, each..... **3.00**
B. & S. Pipe Attachment, will fit 8-inch Auto and 6-inch shop. Price, each..... **.50**



B. & S. MODEL E

7 inches, opens 1¾ inches, weight 19 ounces.

Black finish. Price, each..... **$1.25**

B. & S. MODEL D

Adjustable drop-forged from bar steel, with oval sliding bar, graduated to 32ds. Solid handle, 6 in., opens 1½ in., weight 11½ ounces.

Black finish. Price, each..... **$1.10**

B. & S. MODEL 97

Drop forged from bar steel, carefully hardened. Weight 5½ ounces. Opens 1⅜ in. Thickness of jaw, ¼ in. Nickel plated. Price, each **$0.50**

Automobile Wrenches

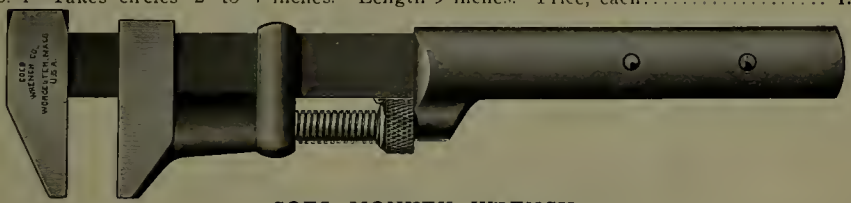
B. AND S. ADJUSTABLE "S" WRENCHES

Size, inches	6	8	10
Price, each	$0.75	$0.90	$1.00

B. & S adjustable "S" pipe wrenches made in same sizes and prices.

B. & S. ADJUSTABLE SPANNER WRENCH

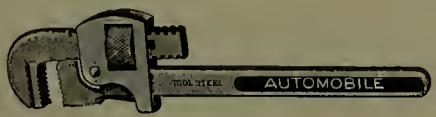
No. 0—Takes circles ¾ to 2 inches. Length 7 inches. Price, each.....$0.75
No. 1—Takes circles 2 to 4 inches. Length 9 inches. Price, each..... 1.00



COES MONKEY WRENCH

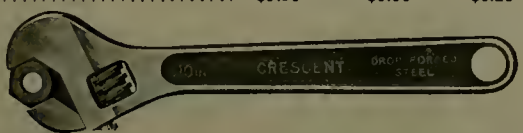
For repair kits and shop use. Dropped-forged from tool-steel, and will stand the hardest kind of use.

Size, inches	6	8	10
Iron handle	$0.70	$0.80	$1.00
Wood handle	.70	.80	1.00



STILLSON WRENCHES

Size, inches	6	8	10	14	18
Price, each	$0.90	$1.00	$1.25	$1.50	$2.00



CRESCENT ADJUSTABLE WRENCH

In designing this wrench, we have followed the outline of the solid 22½ degree Engineer's Wrench, which is acknowledged to be the most serviceable of all solid wrenches.

Price List

Size, inches	6	8	10	12
Capacity, inches	¾	15/16	1⅛	1 5/16
Price, each	$0.80	$1.00	$1.25	$1.60

B. & S. Open End Wrenches and Sets

B. & S. SINGLE END 15-DEGREE ANGLE FINISHED WRENCHES

Number	470	471	472	473	474	475
Size of opening	3/16	1/4	5/16	3/8	7/16	1/2
Price, each	$0.20	$0.20	$0.20	$0.25	$0.25	$0.25

B. & S. FINISHED GENERAL SERVICE WRENCHES

Number	560	561	562	563	564
Size of opening	3/8 x 1/2	1/2 x 5/8	5/8 x 3/4	3/4 x 7/8	7/8 x 1
Price, each	$0.25	$0.25	$0.35	$0.45	$0.50

B. & S. CAP SCREW 15-DEGREE FINISHED ANGLE WRENCHES

Number	675	676	677	678	679	680	681
Fit Cap Screws	1/4	5/16	3/8	7/16	1/2	5/8	3/4
Price, each	$0.25	$0.25	$0.35	$0.45	$0.50	$0.60	$0.80

B. & S. DOUBLE END 22½-DEGREE SEMI-FINISHED S WRENCHES

Number	325	329	333	337	340	542	544
Size of opening, inches	1/16 x 1/2	1/2 x 11/16	11/16 x 7/8	7/8 x 1 1/16	1 1/16 x 1 1/4	1 1/4 x 1 7/16	1 7/16 x 1 5/8
Extreme length, inches	4	5	6	8	9	11	11
Price, each	$0.25	$0.25	$0.35	$0.50	$0.65	$1.25	$1.25

Wrenches

WILLIAMS' 15-DEGREE ANGLE DOUBLE-END FINISHED WRENCHES

Number	721	723	725	725B	727	728
Size of cap screw	1/8 & 3/16	3/16 & 1/4	1/4 & 5/16	5/16 & 3/8	3/8 & 7/16	3/8 & 1/2
Extreme length, inches	3 1/4	4	4 7/8	4 7/8	5 7/8	6 7/8
Price, each	$0.20	$0.25	$0.30	$0.30	$0.35	$0.45
Number	729	731	731B	733	735	737
Size of cap screw	7/16 & 1/2	1/2 & 9/16	9/16 & 5/8	5/8 & 3/4	3/4 & 7/8	7/8 & 1
Extreme length, inches	6 7/8	7 3/4	7 3/4	8 3/4	9 3/4	11 1/2
Price, each	$0.45	$0.50	$0.50	$0.65	$0.75	$1.00

Price, complete set of twelve..... **$5.25**

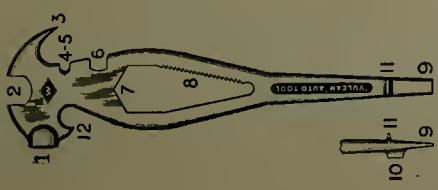
WILLIAMS 22½° ANGLE DOUBLE END S WRENCHES.

A Very Heavy Wrench, Suitable for Shop Use

Number	662B	663A	664A	665B	666B	667A	667B	668A
For bolts	1/4 & 5/16	5/16 & 3/8	3/8 & 1/2	1/2 & 5/8	5/8 & 3/4	3/4 & 7/8	3/4 & 1	7/8 & 1
Extreme length, inches	5	6 1/4	7 1/2	9	10 1/2	12	12	14
Price, each	$0.35	$0.45	$0.55	$0.70	$0.95	$1.45	$1.45	$2.25

Price, complete set of eight..... **$7.50**

WILLIAMS' "VULCAN" AUTO TOOL

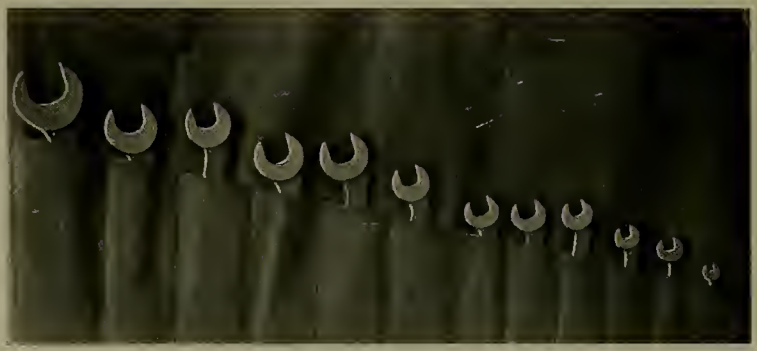


Twelve Tools in One

1 Hammer
2 Tire Lug Wrench
3 Cotter Pin Puller
4 Gas Tank Wrench
5 Wire Insuration Scraper
6 Air Tank Wrench
7 Spark Plug Wrench
8 Alligator Wrench
9 Cotter Pin
10 Spreader
11 3 Screw Drivers
12 Bottle Opener

Packed in canvas bags with button flap and become an unusually adaptable hip-pocket companion, 8 inches length, and ½ lb. weight.
Price, each **$1.00**

Wrench Sets



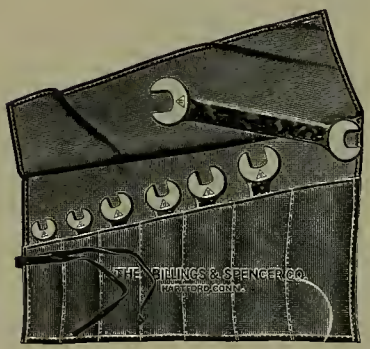
SUNSET WRENCH SET

This set consists of twelve 22½° Billings & Spencer finished wrenches and contains every size suitable for the shop and machine.

These wrenches are made especially to our specifications and are guaranteed to be made of the best tool steel and drop forged.

Number	Milled Opening	Number	Milled Opening
367½	3-16x¼	379	11-16x⅞
368	⅜x7-16	383	25-32x31-32
369	13-32x½	384	¾x1
374	½x⅝	387	⅞x1-16
377	9-16x11-16	390	⅞x1⅛
378	9-32x11-16	391	11-16x11-16

Price, complete, consisting of 12 wrenches and roll **$6.00**



B. & S. AUTO WRENCH SET

Consists of seven semi-finished 15 degree Angle Double End Wrenches in canvas bag. Will fit all cap screws and nuts ranging from ¼-inch to ¾-inch.

Nos. 675, 676, 677, 678, 679, 680, 681.

Price List

Set of 7 in canvas bag..... **$4.00**

B. & S. GENERAL SERVICE WRENCH SET

Consists of five semi-finished 22½ degree Angle S Double End Wrenches. Milled openings from ⅜" to 1" in ⅛" sizes.

Set of 5 in canvas bag..... **$2.00**

Tool Kits—Tool Rolls

No. 3 RIVAL TOOL KIT
Price $10.00

RIVAL TOOL KIT

This Outfit Contains Twenty-two Tools, as follows:

1 Ball Pein Hammer.
1 10-inch Stillson Wrench.
1 8-inch N. P. Monkey Wrench.
3 B. & S. S Wrenches.
3 Assorted Files.
1 Pr. 6-in. Combination Pliers.
1 Perfect Handle Machinist's Screw Driver.
1 6-inch Perfect Handle Screw Driver.
1 Cotter Pin Extractor.
2 Cold Chisels.
1 4-inch Punch.
1 Center Punch.
1 Wooden Handle.
1 Box Cotter Pins.
2 Spools Copper Wire.

This outfit contains the most essential tools. Every one is indispensable and fully warranted. Mounted in a heavy duck case, with double retaining straps.

This kit as a practical outfit rivals any on the market.

NOONAN'S AUTOMOBILE TOOLS

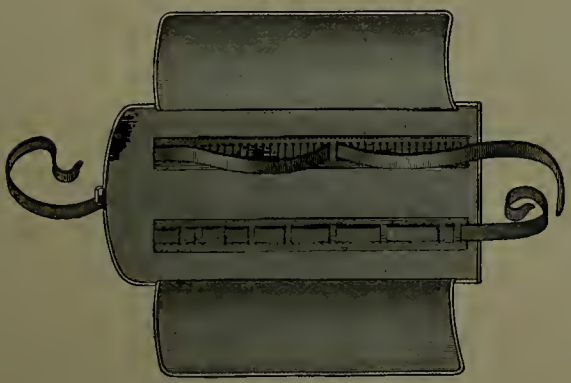
Made of the finest grade of Jessup Tool Steel carefully finished, hardened and tempered. Well known for their quality and usefulness.

NOONAN'S AUTOMOBILE TOOLS

Made in two lengths, 4 and 6 inches, and furnished in assortment of ten and twelve tools packed in leather cases and wood boxes.

NOONAN'S AUTOMOBILE TOOLS

Set No. 3—Leather case, consists of 10 tools, sizes ⅛ to ⅜ in., 4 in. long. Per set..... $3.00
Set No. 4—Leather case, consists of 12 tools, sizes ¼ to ⅜ in., 6 in. long. Per set..... 4.50
Set No. 4—In wood box, consists of 12 tools, sizes ¼ to ⅜ in., 6 in. long. Per set..... 3.00



SUNSET WRENCH AND TOOL ROLLS

Made of heavy black waterproof duck, leather bound, very convenient where it is desired to make up any special set of tools. Each

No. 12—For 12 tools... $1.00
No. 30—For 30 tools... 2.00

Tool Outfits

NO. 1 PERFECTION TOOL KIT

A perfect assortment of high grade tools, complete in every detail, containing in addition to the essential tools, many that will be found of great value in emergencies, and for general use; handsomely mounted in heavy brown duck with retaining straps, sewed throughout and indestructible.

Price $17.50

This outfit contains thirty-four tools, as follows:

1 Ball Pein Hammer.
1 10-inch Monkey Wrench.
1 10-inch Stillson Wrench.
1 No. 97 B. & S. Wrench.
4 Double end S Wrenches.
1 2½-inch Champion Screw Driver.
1 Perfect Handle Machinists' Screw Driver.
1 6-inch Perfect Handle Screw Driver.
4 Pair Assorted Pliers.
4 Assorted Punches.
2 Cold Chisels.
1 Cotter Pin Extractor.
1 2-ft. Rule.
6 Assorted Files with Handles.
1 Box Lock Washers.
1 Soldering Iron.
1 Box Cotter Pins.
Wire, Solder, Copper Wire, Emery Cloth.

No. 2 Reliance

This kit contains all the essential tools for making repairs on the road, together with complete soldering outfits, and can be relied upon for general use at all times. Every tool is strictly high grade, fully warranted, and especially adapted for purpose intended. The case is of heavy brown duck, with retaining straps securely fastened with double rows of copper rivets.

No expense spared in making this a first-class repair kit.

NO. 2 RELIANCE TOOL KIT

Price $12.00

This outfit contains thirty tools, as follows:

1 Ball Pein Hammer.
3 Assorted S Wrenches.
1 10-inch Monkey Wrench.
1 10-inch Stillson Wrench.
1 Perfect Handle Machinists' Screw Driver.
2 Pairs Pliers.
1 6-inch Perfect Handle Screw Driver.
1 Cotter Pin Extractor.
1 Soldering Iron.
4 Assorted Files.
1 Bearing Scraper.
2 Chisels.
3 Assorted Punches.
1 Box Cotter Pins.
1 Box Lock Washers.
Copper Wire, and Solder.

Crane Pullers—Valve Tools

CRANE PULLER

The Crane Puller will easily and quickly pull off a flywheel, cam or gear, and will leave no marks.

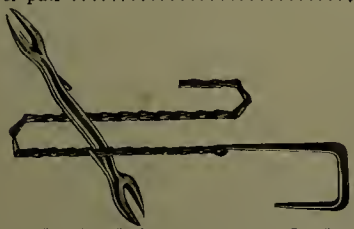
Made of drop-forgings throughout.

Constructed in two sizes—No. 2 and No. 3. No. 2 is 10 inches long, and arms can be had either 6 or 8 inches long, No. 3 having 14-inch arms and hooks, and 10 inches in the clear. These tools are indispensable in machine and repair shops of all kinds.

Prices of Tools and Parts

No. 2, either set of Arms $7.20	Beam	$3.20
	Screw	2.60
	Arms, per set..	1.20
Both sets..... $9.00	Pins, per pair..	.20
	Beam	$3.40
	Screw	2.90
No. 3 Size.... $10.00	Arms, per set..	2.50
	Pins, per pair..	.20

No. 3 Extension Arms, including Pins per pair $2.50



FLEXIBLE VALVE REMOVER

The chain allows quick operation around pipes and adjacent fittings.

Valve replaced as easily as removed.

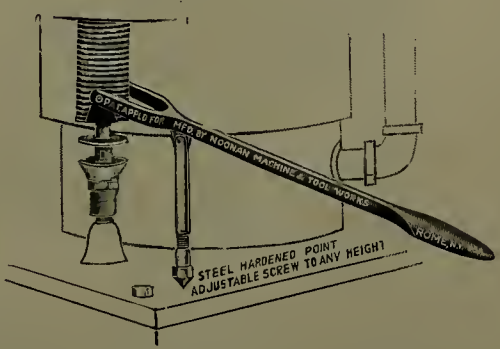
Trouble will occur on any valve. Easily overcome if the right tool is used. Try the flexible tool.

Price $1.00

ILLUSTRATING THREE-ARM CRANE PULLER No. 2

One man can easily remove propeller or auto wheel with this tool. The handle in one of the ends of the beam is to keep it from turning while pulling against it with a wrench. A cord is tied around the arms to keep them in place. The arms are the same as are used on regular two-arm Puller. Parties having a two-arm Puller can get an extra arm and three-arm beam to go with same. Drawing from three points, it will draw narrow collars, gears, commutators, etc., that would be impossible to move with two arms.

Price $10.00



NOONAN'S VALVE LIFTER

A valuable addition to every repair shop.

Price $1.00

Boxes

Style B

No.	Length	Width	Depth
No. B-116	10¾"	x6 "	x8¼"
Inside Wood Lining	9 "	x5¼"	x7⅝"
No. B-127	12 "	x6¾"	x9 "
Inside Wood Lining	11¼"	x6 "	x8½"

Prices

B-116 (as shown in cut)	$2.50
B-127 " " " "	3.00

Extras, Add to Above List

For Wood Lining	.80
For Brass Locks	.50

B-116—Designed for Vesta, National, Geiszler or Duro battery, or eight dry cells.

B-127—Designed for small tool box, or Witherbee re-charging outfit, or one Witherbee battery and five dry cells, one Geiszler battery and five dry cells, one Xlcr, Exide, or Royal battery. If wood lined, will admit any Vesta or National battery, or eight dry cells.

Style C

No.	Length	Width	Depth
C-117	10¾"	x7⅛"	x9 "
Inside Wood Lining	10¼"	x6¼"	x8¾"
C-119	11½"	x8¾"	x9½"
Inside Wood Lining	10¾"	x8 "	x9 "

These are for regular boxes with brass lock and lift combined, black enamel finish, and **without** wood lining.

Prices

C-117 (as shown in cut)	$3.50
C-119 " " " "	3.70

Extra, Add to Above List

For Wood Lining	$1.00

C-117 and C-119 are designed for batteries and dry cells and will admit any battery. They are frequently used for tools and are good for large sized lighting batteries.

Style C Gas Tank Box

No. C-217

Length.	Width.	Depth.
21 in.	6½ in.	6½ in.

Price

This is for regular style with **Brass Lock** and lift combined and black enamel finish.

No. C-217 ..... $4.50

STYLE C GAS TANK BOX

The cut shows a C-217 box containing a 20-inch gas tank. The tank is resting on two semi-circular staves which prevent its rolling, and at the right hand end of the box there is an opening which shows the face of the pressure gauge. The box when locked prevents thieves from stealing the gas tank. That is one reason why it is a good box—the other is that you can exchange tanks in less than half the time it takes if the tank is secured in the old-fashioned way.

Boxes

Illustrating
Style B Box, fitted with Brass Covers and Aluminum Mat

No.	Length	Width	Depth
B-148	13½"	x8 "	
Inside Wood Lining	12½"	x7 "	x7⅜"
B-178	16⅜"	x7½"	x9 "
Inside Wood Lining	15½"	x7 "	x8¼"
B-179	16⅝"	x9 "	x9½"
Inside Wood Lining	15¾"	x8¼"	x8⅝"

Prices

These are for regular style boxes, with brass lock and lift combined, black enamel finish, and **without** wood lining.

B-148 (as shown in cut) $4.00
B-178 " " " " 4.50
B-179 " " " " 4.50

Extras, Add to Above Lists

For Brass Corners on any of above boxes $1.50
For Wood Lining in B-148 ..... 1.00
For Wood Lining in B-178 or B-179 ... 1.25
For Aluminum Mat on B-148 ..... 1.50
For Aluminum Mat on B-178 or B-179. 2.00

B-148—Designed for tool box, or will admit six dry cells and a Witherbee, Geiszler, Willard, Royal, Duro or any other storage battery not over 8x8 in. If wood lined, will admit six dry cells and one Witherbee, Geiszler, Royal, Duro or any other battery not over 7x7½ in. With partition 2⅞ in. from back it will take five dry cells and allow compartment 13½x5½ in. for small 12 in. tool roll.

B-178 and B-179 are designed for tool boxes, or will admit, when wood lined, six dry cells and one Xlcr, National, Vesta or Exide battery. Used frequently for tools, jacks and repair outfits.

B-178 will hold two Witherbee No. 66 batteries or two Geiszler batteries.

Measurements

The measurements given throughout on these boxes are all inside measurements. Depth is always the distance from the upper edge of the body to the bottom. Covers are about 1¼ inches deep, so the distance between the cover and the bottom when the box is closed is 1¼ inches more than the depth as given under the respective sizes.

Style C

The cut shows the regular style C-208 or C-217½ box designed for narrow running boards. These boxes will admit any battery and extra cells, and have tool space to spare.

No	Length	Width	Depth
C-208	20	"x8½"	x9 "
Inside Wood Lining	19¼"	x7¾"	x8½"
C-217½	21	"x6½"	x8 "
Inside Wood Lining	20¼"	x5¾"	x7¼"

Prices

These are for regular style boxes with brass lock and lift combined, black enamel finish, and without wood lining.

C-208 (as shown in cut) $5.00
C-217½ " " " " 5.00

Extras, Add to Above Lists

For Wood Lining in either box $1.50
For Aluminum Mat (on C-208 only) ... 2.50

Specifications

The regular style box is without wood lining, finished in fine black enamel thoroughly baked on, and with the exception of B-116 and B-127, which have hinged hasps, regular boxes all have our patented brass lock and finger lift combined.

Boxes

Style C

	Length	Width	Depth
C-166	15¾"	x6½"	x 9"
Inside Wood Lining	15 "	x5¾"	x8½"
C-168	16¼"	x8½"	x9 "
Inside Wood Lining	15½"	x7¾"	x8½"

Prices

These are for regular style boxes with brass lock and lift combined, black enamel finish, but **without** wood lining.

C-166 (as shown in cut) **$4.00**
C-168 " " " " **4.20**

Extras, Add to Above Lists

For Wood Lining **$1.00**

C-166 and C168 are designed for batteries or dry cells and small tools and will hold two Witherbee No. 66 batteries or two Geiszler batteries.

Construction

These boxes are made in two styles, B and C, the difference being in the radius of the corners. Style B corners have a radius of one inch; style C corners a radius of three-eighths inch. In all boxes the covers are pressed to shape and come far down over the edge of the box. This makes the box water-tight and protects batteries or tools against wetting when the car is washed. In all boxes the sides are one piece with a seam at the back, and the bottoms rest upon and are riveted to lugs that are part of the body.

Style B

	Length	Width	Depth
B-229	22 "	x9 "	x9½"
Inside Wood Lining	21 "	x8¼"	x9 "
B-2410	24 "	x10 "	x9½"
Inside Wood Lining	23¼"	x9 "	x9 "

Prices

These are for regular styles with two locks and lifts, black enamel finish, **without** wood lining.

B-229 (as shown in cut) **$7.00**
B-2410 (as shown in cut) **8.00**

Extras, Add to Above Lists

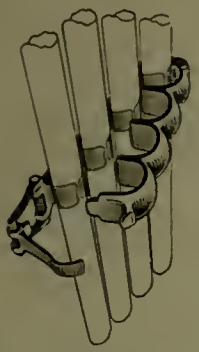
For Brass Corners **$1.50**
For Aluminum Mat on B-229 ..... **2.50**
For Aluminum Mat on B-2410 ..... **3.00**

Extras

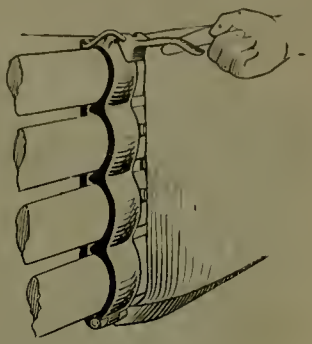
The extras which may be had on these boxes are Wood Linings, Aluminum Mats and Brass Corners. On B-116 and B-127 a brass lock may be had as an extra. Aluminum Mats and Wood Linings or Brass Corners can be had **only** with those boxes under which they are mentioned, but all boxes for which Aluminum Mats may be had, may also be had with a Raised Panel in the top in place of the mat.

Prices

All prices in this catalog are list prices. To determine the price of any box with any specified extras add to the list price of the regular style, the list price given for such extras immediately under the regular prices.



Top Fittings



BAIR AUTO TOP HOLDERS
(Patented)

Durable, Useful and Ornamental

No unsightly straps or clumsy sockets. Manufactured to fit 3, 4 and 5 Bow Tops of any make machine. Finished in Bronze or Japanned.

THE BAIR AUTO TOP HOLDER

Prevents **Jarring, Jolting, Chafing or Broken** Bows. Stops the bows from **Spreading.** Keeps the weight **off** the **lower** bow; each bow is carried **separate,** as in a vise, and the entire top is so held that it becomes part of the car. (The weight, jolting, etc., is then transmitted to the springs on the car.) Saves time—no old style straps or other devices to bother with. Prevents all side motion. A top equipped with the **Bair Auto Top Holders** can be used as a **Dust Shield.**

Price List.

Brass Finish		Black Enamel	
For 3 Bow Top. **Price** per set	$6.50	For 3 Bow Top. **Price** per set	$5.00
For 4 Bow Top. **Price** per set	7.50	For 4 Bow Top. **Price** per set	6.00
For 5 Bow Top. **Price** per set	8.50	For 5 Bow Top. **Price** per set	7.00

STYLE-A

STYLE-F

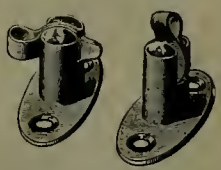
BOW SEPARATORS

Protect the top folds and bows, and being fastened to the bows are of no bother when putting up or letting down the top.

Price, per dozen.....$1.25

CELLULOID

Sheets, 20x36, each.....$1.25
Sheets, 20x50, each..... 1.50



CURTAIN FASTENERS

Furnished for single or double curtains with screws for wood, plates and rivets for stays.

Made of brass.

Price, per doz.....$1.50

"EVER-TIGHT" CLAMP BOW REST

Overcomes the breaking of bows, tearing of the leather covering, and holds the folded top in a secure position. Very easily attached to any car. When the top is up the thumb nut is screwed up, so it cannot be lost off.

Size No. 1 for 3 or 4 bow top.

Size No. 2 for 5 bow top.

Price, per pair, black.....$2.00

No. 454

Polished brass Snap Loops, 1 in., 1¼ in., 1½ in. sizes.

Price each $0.15

No. 450

No. 451

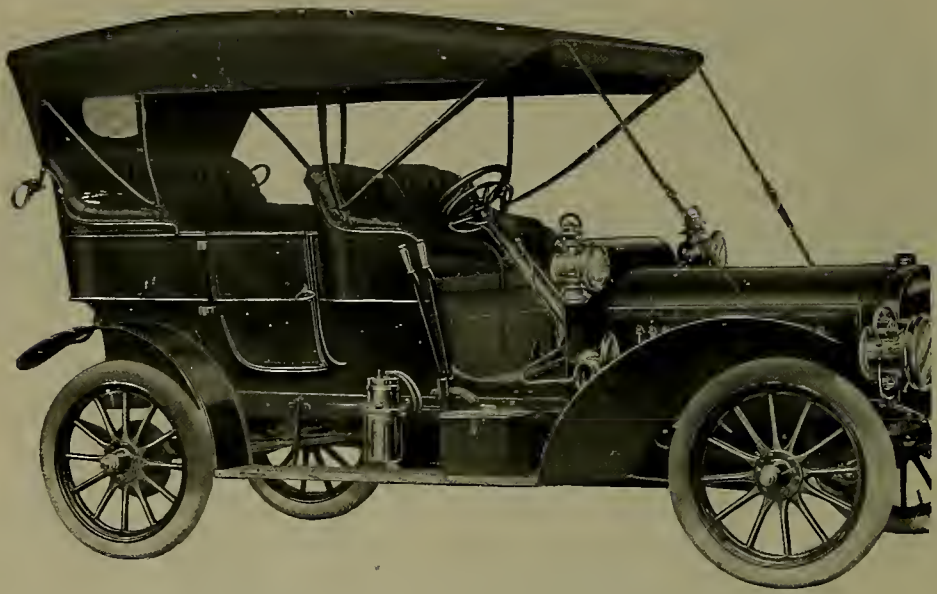
No. 452

No. 453

Polished Brass Strap Loops.

Price each..... $0.15

Automobile Tops



ONE STYLE MADE BY OUR TOP FACTORY

The majority of our customers are aware that for the past two seasons we have had in operation at Los Angeles a factory making Tops only. We have had a busy season and have manufactured a great many Tops, which in every case have proved very satisfactory to the trade, so we feel competent and are in a position to build Tops as ordered of as good material and price as any Eastern factory can. We build Tops exclusively for all the Peerless, Oldsmobile, Cadillac, E. M. F., Chalmers-Detroit, Buick, Franklin, Rambler, Thomas, Stearns, Columbia, Lozier, Locomobile and several other high grade cars on the Coast. They are constructed of steel bow sockets, japanned, or covered with patent leather. The bows are of second growth ash, which insures strength and durability. The side, front and rear curtains are all fitted with celluloid lights, giving ample observation. The back stays are reinforced with straps, with neat hat rack in roof of top. When folded back they make a perfect dust shield and do not interfere in operation. Every line of these Tops is graceful, thus adding a finish to any car, as well as comfort in touring. Our workmen are experts in this line, and every Top is absolutely correct in construction and material before leaving factory. We make three grades, and the material used is mackintosh, rubber, artificial leather or Pantasote. All the stitching is carefully done and the small necessary finishing touches are added to make it pleasing to the eye.

We also repair or re-cover TOPS, make new SIDE CURTAINS, STORM FRONTS, DUST HOODS and SEAT COVERS. Send in your specifications for any style or grade. In ordering, give us all the information possible about the car—name, model and year it was built, and if there has been a special body made that is not standard, write us for measurement blank.

PRICES ON APPLICATION.

Los Angeles Store

Main Salesroom Los Angeles Store

Los Angeles Store of Chanslor & Lyon

One Corner of Tire Department

CHANSLOR & LYON MOTOR SUPPLY CO., San Francisco.
Carrying the Largest and Most Complete Stock West of Chicago

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